



A MONOGRAPH
ON
CLASSIFICATION AND
NOMENCLATURE OF
SOUTH INDIAN
MANGOES

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PREFACE

The basis of all work in plant improvement is an understanding of the peculiarities and performances of the plant that one is called upon to deal with. The scientist can only gauge the improvements effected, if he has the knowledge of what he started with. Work with unknown material is purposeless and wasteful. The science of classification and nomenclature, therefore, has been rightly acclaimed as providing the door to an orderly, systematic and standardized knowledge and for planned progress. Taxonomy has been the first step in all botanical research and Horticultural Taxonomy plays a similar role in the concerned field. The practical value of classified fruit wealth under a codified nomenclature is of no less importance to the practical fruit producer than to the scientist. Far too much loss has occurred in the past by haphazard plant introductions and by raising plantations with fruits, the knowledge of which was at best restricted to nurseryman's catalogue. Wrong plants in perennials cause far greater loss to the cultivator than wrong seeds of annual crops, since the evils of the planting of the former persist for very long periods, that may extend to a generation or more.

It is no satisfaction to be told that though India has grown mangoes from time immemorial, there is no agreed list yet of the choicest varieties of the country. Varieties frequently spring up in Nature ; some of these attain local importance for a while ; and in due course fade away from public memory to give place to new finds and fads. Thus, our variety situation is shifting, getting very localized and becoming so chaotic that it only serves to block progress. Visitors from the South often are confronted in North Indian markets with mango varieties that are familiar to them, but that pass under different or strange names. So long as we continue to be in the dark about our own mango wealth, and so long as we are not in a position to guarantee that the

varietal names in vogue in one part of the country are identical to those in use for the same varieties elsewhere, the art or science of mango culture is bound to be at the mercy of the whims of individuals. A properly evolved system of classification and code of nomenclature are essential for increasing our fruit production efficiency and for securing enhanced and standardized quality of the produce, without which the future of our mango industry can never be upgraded. It is on a recognition of these facts that the Madras Government sanctioned a scheme for working out the classification and nomenclature of South Indian mangoes in 1937. For about 8 years this work has been in progress and the present Monograph is the outcome of the work carried out under that scheme.

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TABLE OF CONTENTS

	Particulars.	Page.
I	Introduction	1
II	Material	2
III	Methods	6
IV	Diagnostic Importance of Characters	14
V	Basis of Nomenclature	33
VI	Key for the Identification of Varieties	36
VII	Variety Descriptions—Cohort I	39
VIII	Variety Descriptions—Cohort II	71
IX	Variety Descriptions—Cohort III	96
X	Variety Descriptions—Cohort IV	146
XI	Variety Descriptions—Cohort V	189
XII	Variety Descriptions—Cohort VI	227
XIII	Unclassified Progenies	274
XIV	Discussion	282
XV	Acknowledgment	287
XVI	Summary and Conclusion	288
XVI	List of References	289
XVIII	Index	295
XIX	Appendix	300

A MONOGRAPH ON CLASSIFICATION AND NOMENCLATURE OF SOUTH INDIAN MANGOES*

I. INTRODUCTION

In all lands the early days of a fruit industry are characterized largely by amateur undertakings. Varietal introduction and testing are the main duties that concern the producers as also the research stations. When the more promising varieties are spotted out or when fruit growing gets into its stride as a commercial undertaking, attention is naturally diverted to the next phase of more intense study and experimentation. The discerning of promising or superior varieties which is an essential part of all improvements, is pre-eminently the work of a systematic horticulturist. Without an accurate understanding of the varietal habits and characteristics or without a standardised system of varietal classification, neither the selection of superior varieties nor any other intensive or extended research is possible. It is therefore a matter for no surprise that horticultural workers have bestowed considerable thought and attention on the nomenclature and classification of fruits during the initial stages of research or development of fruit industry in all climes.

There can never be however a *status quo* in fruit variety situation. Everywhere the search for an ideal variety is proceeding continuously. New varieties appear at different times and while they gain prominence, they are constantly compared with those engaging the erstwhile fancies of the producers or the trade. Before a variety passes from the hands of the breeder or the selective horticulturist to the industry, its accurate description and its comparison with the existing commercial varieties have to be necessarily undertaken.

Owing to the fact that cultivated fruits in temperate zones received attention of research workers for a much longer period than those

*This monograph represents in part the matter contained in the thesis submitted by Mr. S. R. Gangolly for the degree of M.Sc. of the University of Madras.

A Monograph on South Indian Mangoes

of the tropics and the sub-tropics, the nomenclature and classification of the former have naturally been placed on a more satisfactory basis. In the case of apple alone, the U.S. Department of Agriculture have catalogued, for instance, a total of 6,702 varieties from 1804 to 1904 (78). Yet in 1945, according to the American Fruit Grower, the American Pomological Society felt the great need for an extended survey and report on the new variety situation, since they knew that in the preceding 25 years literally thousands of new varieties of fruits had been named and introduced.

In India fruit research can be hardly said to have developed far beyond the variety testing and introduction stage. Naturally therefore variety description and classification are deemed to be the leading horticultural projects during the present period of the progress of fruit research in the country.

Undoubtedly, mango is the leading commercial fruit and the most fancied among the public in India. No other cultivated tropical fruit possesses such an extensive range of varieties as the mango ; and in no other fruit has the naming of varieties been considered a field open to all from the skilled pomologist to the uneducated layman. Widespread confusion is the logical result of such unorganized attempts, so that mango nomenclature is now nothing short of a most confused mass of perplexing synonyms and instances of ridiculously mistaken nomenclature.

The above stated tendency has been greatly accentuated by the frequency of the origin of new varieties in nature, first as chance seedlings and subsequently by the perpetuation of such superior chance seedlings through inarching. This characteristic feature of the monogembryonic mango is readily exploited by the mango nurserymen by employing fanciful names, coined after persons, places, achievements, etc.

The excessive preference among the growers for a collection of large number of varieties in their mixed orchards is another potent cause for the present chaotic nomenclature and classification. In the matter of variety selection and identification the growers' guide at present is primarily the nurseryman's catalogue. These publications, which are in several cases mere compendiums of errors and synonyms, have caused considerable disappointment to the growers on one hand, and on the other, invited severe indictment and ridicule from foreign countries. Popenoe (75 to 76), Richards (81) and Wester (106 and 107) have therefore pointed out rightly that introduction of mango varieties from India was not a profitable project. Popenoe goes even to the extent of asserting that some of the mangoes catalogued by Indian nurserymen never existed outside their imagination (74).

That the proper selection of varieties provides the keystone of success in commercial fruit farming is a fact which can never be over-emphasised. It is of considerable economic importance to the grower to be able to identify not only the ripe fruit of mango varieties, but also the trees thereof, in nursery and orchard. Knowledge such as would enable the growers to determine whether the trees are true-to-name is invaluable before or at the time of purchase of trees. For the extension workers as well as to those engaged in mango research, such a knowledge is indispensable. The users of fruit are becoming more and more quality-conscious and thus variety-conscious. The growers are prone to consider any technical adviser to be incompetent if he could not identify those varieties the growers have in their collection and with which they are familiar. For efficient marketing as well as for the utilization of the fruit in product factories, varietal identification is also imperative. The work of every one connected with the mango industry and improvement is therefore rendered possible by an adequate knowledge of varietal characteristics.

The province of Madras is among the leading centres of mango production in India, claiming about 250,000 acres under this fruit. It is also the home of a wealth of varieties unsurpassed in quality in any other country or province of India. The importance of the industry together with the progressive harm resulting from the existing chaos in nomenclature and classification warrant, therefore, a detailed study of the South Indian mango varieties, in the interests of the producers, industrialists, consumers and nurserymen alike.

The studies described in this paper have been primarily undertaken to provide an insight into the problem of variety selection based on an accurate recognition of the important varietal characteristics. The suggestions made in the following pages are not intended to form, nor can they possibly be, the last word on the subject. In effect, these studies form only the first step in the line of providing a basis for the identification of varieties and for their proper nomenclature and classification. For effecting a final solution to the vexed question of mango nomenclature and classification a comprehensive nation-wide measure appears necessary. But it has to be necessarily preceded by a thorough and accurate description of the varieties all over India. The present work though of particular interest to a part of this country is deemed essential for the ultimate objective; and if this stimulates more extended studies for the final solution of all the problems of nomenclature and classification of Indian mangoes, the aim of this monograph may be considered to have been amply fulfilled.

II. MATERIAL

The work of description of South Indian mango varieties was first commenced in 1936. With the sanction of a special scheme for the classification and nomenclature of mangoes in 1937 by the Government of Madras for a total period of five years, the study of varieties was intensified and pursued on a very comprehensive basis. Before the closure of the scheme, however, the very large variety collection plot at the Fruit Research Station, Kodur, had not fully attained the bearing stage, nor any of the hybrid progenies originated on that station had indicated their possibilities. It was therefore felt necessary to extend the work till 1946 mango season, in order to be able to cover every possible cultivated South Indian variety and the varieties introduced from elsewhere, as well as such of those chance seedlings and hybrid progenies as had indicated their promise to be perpetuated as clones. In effect, therefore, the study of nomenclature and classification of South Indian mangoes may be said to have been carried on for a period of about ten years.

Distribution of the mango varieties over an extremely wide area has been possibly the most important limiting factor in the undertaking of similar studies in the past. This was overcome in the present studies by organizing a series of tours to all the leading producing centres in South India during the growing, flowering and fruiting periods. The variety collection plots of mango at the Fruit Research Station, Kodur and the Government Central Farm, Ollukara, in Cochin State containing over 100 and 150 varieties respectively, provided also valuable material for the study. Similarly, though to a less extent, the variety collections associated with large-scale private fruit nursery establishments primarily at Bobbili, Panyam, Kaup and Kadiyam have furnished material of considerable value.

From the foregoing it seems possible to claim that no commercial variety of any importance in this part of India has been left out of consideration. The total number of varieties described in each of the important regions is listed in Table No. I (vide next page).

The 325 varieties listed in the above table include the 10 poly-embryonic mango races which are extensively cultivated in the West Coast of South India, but they exclude the six promising hybrid progenies raised at the Fruit Research Station, Kodur, as well as the six promising chance seedlings selected at the same station for perpetuation as clones. The total number of descriptions recorded in the present contribution therefore amounts to 335.

In every case as far as possible, four trees in normal health and bearing condition were first selected for describing each variety. This was however not possible in case of hybrid progenies and chance seedlings. The four representatives of each variety were chosen from different but representative growing regions, wherever possible, in order to gather an idea on the variations associated with different environs. In some less known varieties it was found in practice difficult to have this requisite number.

TABLE I.

SHOWING THE NUMBER OF DISTINCT VARIETIES STUDIED AND DESCRIBED IN THE VARIOUS MANGO-GROWING REGIONS OF SOUTH INDIA.

(To prevent overlapping the varieties studied have been mentioned in this table against places where they are of greatest importance, excluding the same variety from other centres.)

Region.	Centre.	Number of varieties.	Number of tree descriptions recorded.	Number of flower descriptions recorded.	Number of fruit descriptions recorded.
1. West Coast.	Mangalore	33	108	108	112
	Trichur	26	92	92	98
	Kaup	7	18	18	20
	Uchila	3	6	6	8
	Moodabidri	8	16	16	18
	Kateel	1	1	1	2
	Kumaranallur	4	8	8	8
	Palghat	2	2	2	2
2. Southern districts.	Salem	10	22	22	28
	Tanjore	2	2	2	2
	Mayavaram	1	2	2	2
	Ramnad	1	1	1	1
3. Ceded districts.	Kodur	34	108	108	107
	Banganapalle	11	25	25	28
	Panyam	15	45	45	45
	Siruvel	12	25	25	25
	Chittoor	6	12	12	12
	Chandragiri	2	4	4	4
4. Circars ...	Nuzvid	45	92	92	95
	Kadiyam	25	54	54	56
	Pithapuram	23	36	36	36
	Alamanda	30	62	64	65
	Bobbili	24	58	58	78
Total ...		325			

III. METHODS

At the very commencement of the present studies it was realized that the existing descriptive methods relating to mangoes were not sufficiently comprehensive or uniform to enable the formulation of a complete key. This rendered a very detailed study of every possible morphological character in order to determine the relative importance of each for the purposes of classification or varietal identification. Simultaneously it was found essential to standardize the descriptive terminology in respect of each character. In a separate section the diagnostic value of each character is discussed in some detail. It however seems appropriate to set out below the terminology selected for the purpose of the present studies as well as the methods adopted for selecting the specimens.

1. *Selection of specimens.*—After selection of the typical tree in normal growth and health and of adult-bearing age of each variety and in each representative region was carried out, the selection of the plant material from such trees was undertaken for detailed examination. This initial tree-selection ruled out the inclusion of vigorous-growing shoots as well as the growths of under-nourished or overaged trees, which are obviously unsuitable. The selection of shoots and leaves was made from only the current season's growth which had completed its growth period for the season. All growth in the interior of the tree which may possess abnormal features were deemed to provide unsuitable material for any study of varietal characteristics. Out of the uninjured current season's shoots from the exposed region of the trees, a dozen were selected at random from each tree by careful inspection of all sides. Herbarium specimens of leaves from the central region of the selected shoots were also prepared for laboratory studies at a later date. The selection was limited to the non-flowering periods of the year so as to eliminate the chances of including under study the flowering shoots. The material selected for herbarium studies were primarily intended to afford scope for checking the data collected in the field on similar but separate set in the course of the repeated visits to the mango growing centres. The repeated check and verifications of the data of the several trees of the same variety in the herbarium and in the field under different habitats are considered to stamp the present data with the maximum possible accuracy, which with a study in one centre or in one season or in the herbarium alone, it would have been impossible to achieve.

The selection of the inflorescence and flowers for study was limited to only the terminal panicles of typical representative shoots from all over the exposed region of trees. Only six panicles from the selected trees of each variety were ultimately selected at random for detailed study. Axillary panicles, those found in a cluster, and the mixed panicles were ignored. Similarly, the terminal panicles which were too vigorous or stunted or malformed and those which were produced prematurely or too late in the season were also left out of consideration.

For recording fruit descriptions, a dozen typical fruits were selected at random from all exposed sides of each of the selected trees exercising the same care as stated above. Out of these dozen fruits, only one was ultimately selected for final detailed description, though the remaining eleven fruits were also utilized for recording data on the prominent variations between the various selected specimens. To record descriptions on the colour, flavour and taste it was necessary to include only such fruits that had attained full maturity on the tree itself. An efficient working basis for the determination of optimum material was found to be roughly the distinct appearance of the dots on the skin, the minimum exudation, in most varieties, of latex at the time of picking and the occurrence of a characteristic dull sound when the fruits were tapped.

2. *Terminology employed.*—In each variety the descriptions were recorded under three major heads, viz.,

- (1) vegetative characters,
- (2) floral characters, and
- (3) fruit characters.

The terminology employed under each of these three main groups is explained below :—

(1) *Vegetative characters.*—Height, shape, form or outline are the prominent features that obviously call for special attention when describing a tree.

The descriptions of the tree height are expressed in horticultural literature mainly in a relative manner employing such words as tall, medium and dwarf. While these terms may enhance the value of varietal descriptions, their value in classification of varieties may not be high unless accompanied by quantitative data, which were accordingly collected.

The form or outline of the general appearance of the tree is popularly considered to provide a more valuable basis for classification into distinct groups. In mangoes the form may be oval with a tree spread very much smaller than the height, round with a height and spread almost equal, or dome shaped with the spread more marked

than the height. These characters, however, are liable to be influenced by soil, climate, cultural conditions and rootstocks.

The pose of the leaf or the angle made by the leaf with the shoot or the orientation of the leaf is prominently marked in some varieties of mangoes. When the angle made by the leaf with the shoot is less than 45 degrees, the leaves are designated as upheld or erect. On the other hand, when the angle is almost a right angle or even wider the leaves are termed as drooping or downheld. The intermediate position entitles the leaves to be termed as spreading or outheld (vide Plate No. I).

On a par with the pose of the leaf is the leaf shape, which is a distinct varietal character in mangoes and furnishes one of the simplest diagnostic characters for use by practical growers and nurserymen. When the leaves are very narrow and lance shaped, they are termed as elliptic-lanceolate. When the maximum breadth of the leaf is found at the centre of the leaf along with the lance shape, they are designated as oval-lanceolate. Ovate-lanceolate is the term applied when the lance-shaped leaves have their maximum breadth nearest to the leaf base (vide Plate No. II).

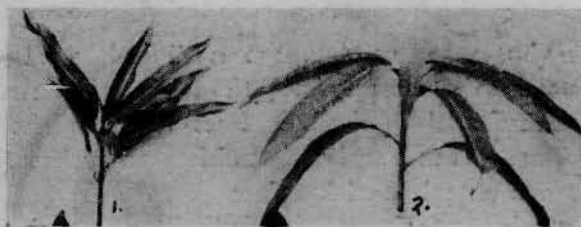
Crinkled leaves form the characteristic feature of some varieties, while twisting of the leaves is prominently observed in others. Wavy margin is a varietal character, which also deserves special mention (vide Plate No. II).

The reflection of the leaf or the curving of the leaf backwards on the mid-rib is found to be very marked in some varieties, while it is totally absent in others. The extent of reflexion is denoted by applying such relative expression as slightly reflexed or strongly reflexed.

The nature of the folding of the leaf is another feature of considerable diagnostic value. In some varieties the leaves are flat and in some the blades are curved upwards in varying degrees. In the latter case the leaves are termed as slightly folded or strongly folded according to the extent of the folding (vide Plate No. II).

While the importance of all the abovementioned leaf characters would be obvious, none of these outweigh in importance the character and nature of the leaf tip which has been employed by a number of standard pomologists as a basis for classification. Leaf tip in mango may be sharp-pointed with a long drawn tip (acuminate) or may end in a blunt point (acute), or be intermediate between the above extremes (sub-acuminate) (vide Plate No. II). In addition to the descriptions of the above characters, measurement of the thickness of the leaves, descriptions of the smell of crushed leaves and the colour of the mature leaves were also collected and recorded in some varieties. Since,

PLATE I.

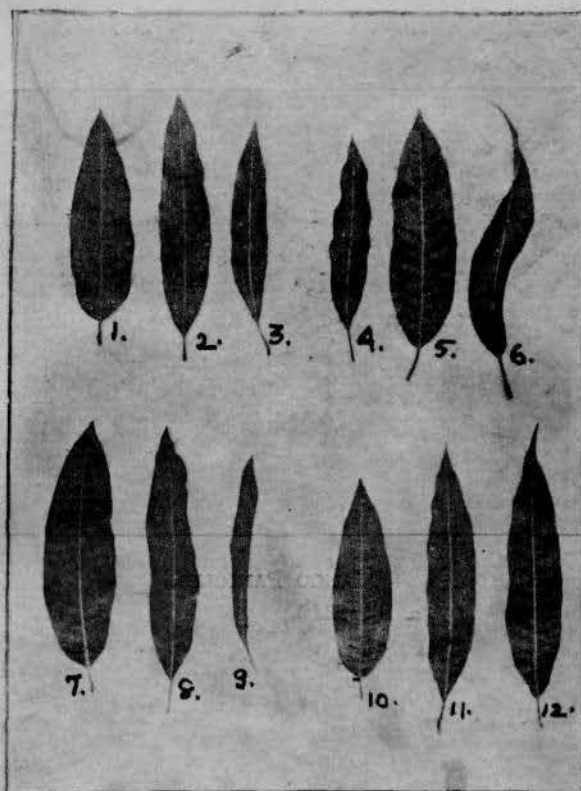


ORIENTATION.

1. Up-held or erect.

2. Out-held or spreading.

PLATE II.



SHAPE OF THE LEAF.

1. Ovate lanceolate.

2. Oval lanceolate.

3. Elliptic lanceolate.

NATURE OF THE LEAF.

4. Wavy.

5. Crinkled.

6. Twisted.

7. Flat.

8. Slightly folded.

9. Strongly folded.

NATURE OF THE LEAF TIP.

10. Acute.

11. Sub-acuminate.

12. Acuminate.

PLATE III.

PLATE III.



MANGO PANICLES.

1. Conical.

2. Pyramidal.

3. Broadly pyramidal.

however, these characters were found at a very early stage of these investigations to vary markedly under different environmental conditions and some of the characters like the colour of the mature leaf was also found to vary in the same variety according to the tree vigour or soil fertility, complete records of all these characters for all varieties were not maintained.

Colour of the emerging leaves is a more constant character not subject to alteration under the diverse conditions of mango culture. The colour shades are of varying degrees in the same plant at different stages of development of the young leaf. This fact necessitates the recording of descriptions at frequent intervals in a season at three distinct stages. Practical difficulties in arranging frequent visits to all mango-growing centres hampered the collection of complete descriptions at these three stages. Fortunately, in most varieties and trees young leaves in various stages of development occur, and this fact combined with the existence of over 100 varieties in the Kodur collections facilitated the collection of data to the extent deemed necessary for the present purpose. In the matter of all colour descriptions, the use of the standard colour dictionaries by Mearz and Paul (61) and Ridgeway (82) were felt essential and useful.

The nature and thickness of the leader shoots is a character used by some in varietal studies. In some mango varieties, the leader shoots are thin or willowy; in others very thick; and in yet others intermediate between the two extremes.

(2) *Floral characters*.—In extant works on mango classification, inflorescence and flower characters are conspicuous by their absence. Even where references to these characters have been made the details furnished are so fragmentary that, as an aid for variety identification their role is definitely of little or no importance. This is a matter for surprise, as in the hands of the systematic botanist these characters form the vital basis of any classification. A casual study of mango varieties is sufficient to establish the importance of these characters for the systematic pomologist also, as would be clear from the following large array of widely differing features.

Shape of the panicle represents one of the most important varietal characteristics (vide Plate No. III).

Conical panicles with the length of the main axis markedly greater than the spread is a definite character in some varieties. In some, pyramidal inflorescence with the spread approximating the length forms the distinguishing feature. Size of the panicle is another easily distinguishable character, especially if exact dimensions accompany the descriptions. In the present studies, measurements of

the length of the main axis and the spread of the panicle are taken to serve as an index of the panicle size.

Hairiness of the panicle has been found to be of diagnostic importance in mango as in most other fruits. To express the varying degrees of hairiness in the mango, the terms found to be adequate were, glabrate or sparsely puberulent, moderately puberulent and densely puberulent. The degree of hairiness is however open to varied appraisal by observers, which prevents this character from use for grouping of varieties.

With the aid of the standard colour dictionaries (61 and 82) the colour of the inflorescence assumes an importance of real practical value ; but if the colour descriptions are based on individual judgment and if sufficient care is not exercised in selecting typical panicles from exposed regions of the tree, the colour descriptions will be shorn of all value. The possibility of vitiation of the colour descriptions by personal factor detracts from the value of this character also for grouping of varieties.

The development of staminodes appears to be a character of some importance even from a casual study of some varieties. Only two groups are deemed sufficient to bring out the varietal differences, viz., well developed and poorly developed staminodes and these are worthy to be collected for completing the varietal descriptions.

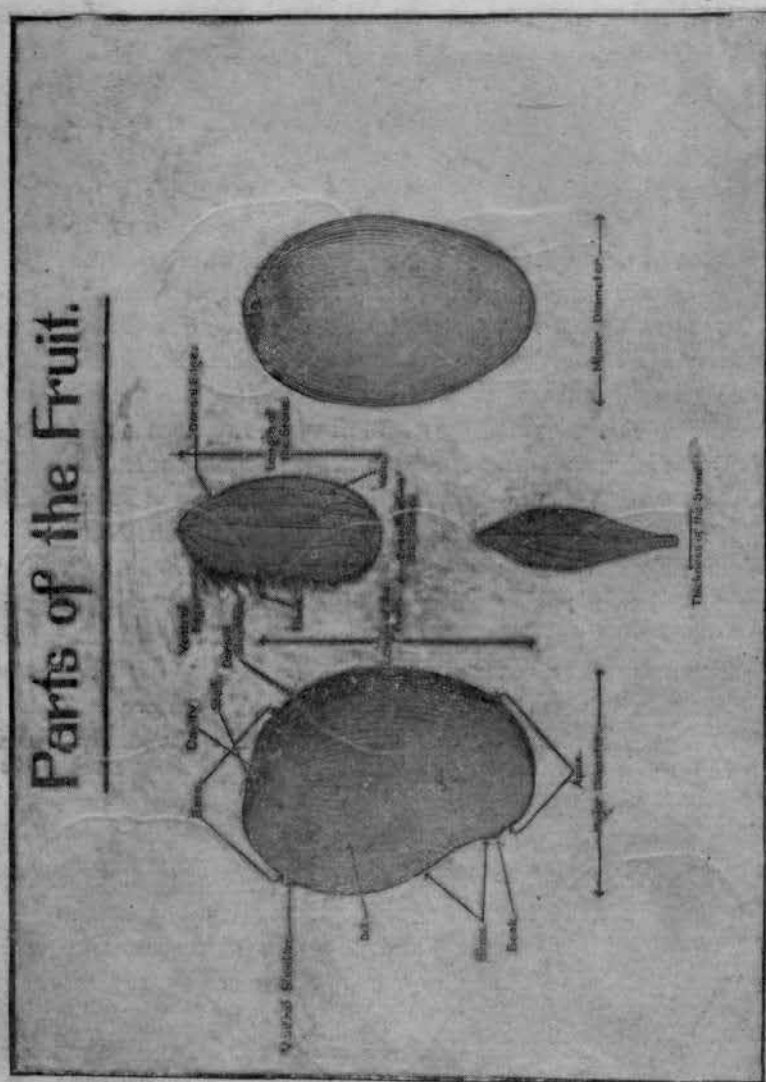
The above descriptions require to be accompanied by those of relative development of stamens and pistil. Mango varieties differ to some extent between themselves in regard to their relative size of stamens and pistil and their orientation on the flower disc. In some the stamen is longer than the pistil, in others the pistil and stamens are equal, and in yet others, pistil is larger than the stamens. The relative position of stamens and pistil may be parallel or oblique to each other.

In order to determine the proportion of perfect flowers in the inflorescence of mango varieties and to assess their relative importance, counts were made in 1939 of such flowers in 16 different varieties, but such records could not be collected in others owing to the time-taking nature of such observations.

(3) *Fruit characters*.—These have received the greatest attention in the past and are also those which have appealed most to the growers and nurserymen, and consequently have formed the main basis for varietal identification and classification.

From a reference to the literature and on consideration of the terminology applied for the different parts of the fruit, it seems appropriate to adopt the following conventional methods of recording fruit descriptions (vide Plate, No. IV).

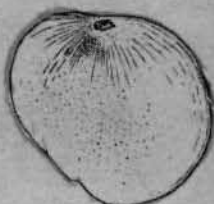
Parts of the Fruit.



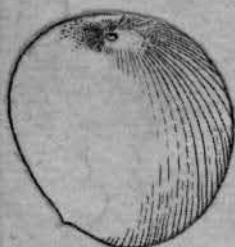
Forms of the Fruit.



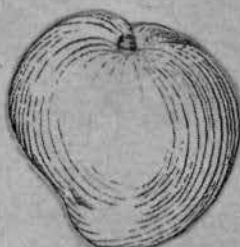
Peento.



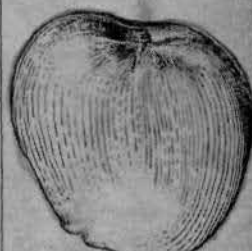
Cordate.



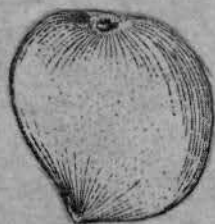
Roundish.



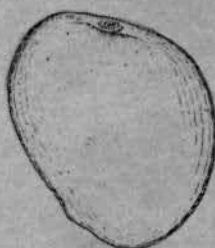
Roundish Oblique.



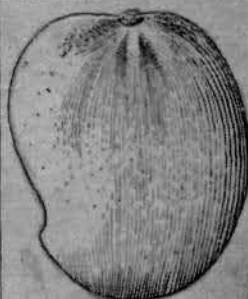
Ovate Roundish.



Ovate.



Ovate Oblique.



Ovate Reniform.

The fruit is held in its natural position, i.e., as it would be while hanging on the tree. The observer faces the fruit in such a manner as to have the beak and concave surface to his left and convex surface to his right. The stalk end is called the base and the opposite, the apex end. The beak or the mark of insertion of the style is termed the 'Nak' by some workers. The left lobe which is generally larger in most varieties is designated as the left or the ventral shoulder and the opposite one as the right or the dorsal shoulder. The size and the nature of the stalk which attaches the fruit to the tree as well as the nature of the insertion of the stalk to the fruit are given some prominence. The depression that is often present near the point of attachment of the stalk of the fruit is commonly termed as the cavity. The cavity which lies a little above the beak or 'Nak' is known as the sinus. The distance from the point of attachment to the extremity at the distal end is termed the length of the fruit. The maximum distance between the two shoulders is recorded as the major diameter. The minor diameter is obtained by placing the fruit flat on a smooth surface in its natural position or measuring the depth or the greatest height from the surface on which the fruit rests to the highest point on the fruit.

The form of the fruit (vide Plate Nos. V and VI) possibly affords the most prominent varietal character for the practical growers and has accordingly been employed largely in the mango classification in the past. Except in subnormal or malformed fruits, this character seems to be the least variable under the various diverse environmental conditions. Symmetrical fruits are those which can be divided into two equal halves so as to have the shoulders equal or almost equal and well-balanced. When such an imaginary cut is not possible, the fruit is styled as asymmetrical. Another group is also met with, in which the shoulders are very unbalanced, with one markedly higher than the other. The fruits of this group are classed as oblique shaped. The commonest fruit shapes in mango are roundish, ovate, oval, oblong, oblong elliptic, cordate, reniform, peento, etc., with a number of shapes intermediate between these. In Plate Nos. V and VI are given the usual combination of shapes which have been found in the course of the present investigation.

The size of the mango is of relative importance and can only be of practical value if accompanied by accurate data on dimensions, weights, etc., which have therefore been collected and recorded in these studies.

There are mainly two types of stalk-insertion in mangoes described herein. The term square is applied when the

stalk-insertion is in almost vertical plane with the axis of the fruit (vide Plate XI).

Some sort of fleshy protuberance near the insertion of the stalk forming a sort of extension of the base is found in fruits of certain varieties and this requires to be included in any complete description and has accordingly been done in these studies.

The basal end of the mango may be rounded, slightly flattened, obliquely flattened, necked or obliquely rounded, etc. In order to avoid voluminous descriptions these various shapes are illustrated in Plate No. VII. In any complete descriptions of the fruit, these characters cannot be omitted.

In a similar manner the common shapes of the sinus and apex end met with in mangoes are illustrated in Plate No. VIII.

The shoulders differ markedly both as regards their shape and size. If unequal, mention has to be made as to which of these two shoulders is broader and more prominent. It is also possible to come across varieties wherein one or both the shoulders are absent. Irrespective of their size, the shoulders may be level, or one higher than the other (vide Plate No. IX).

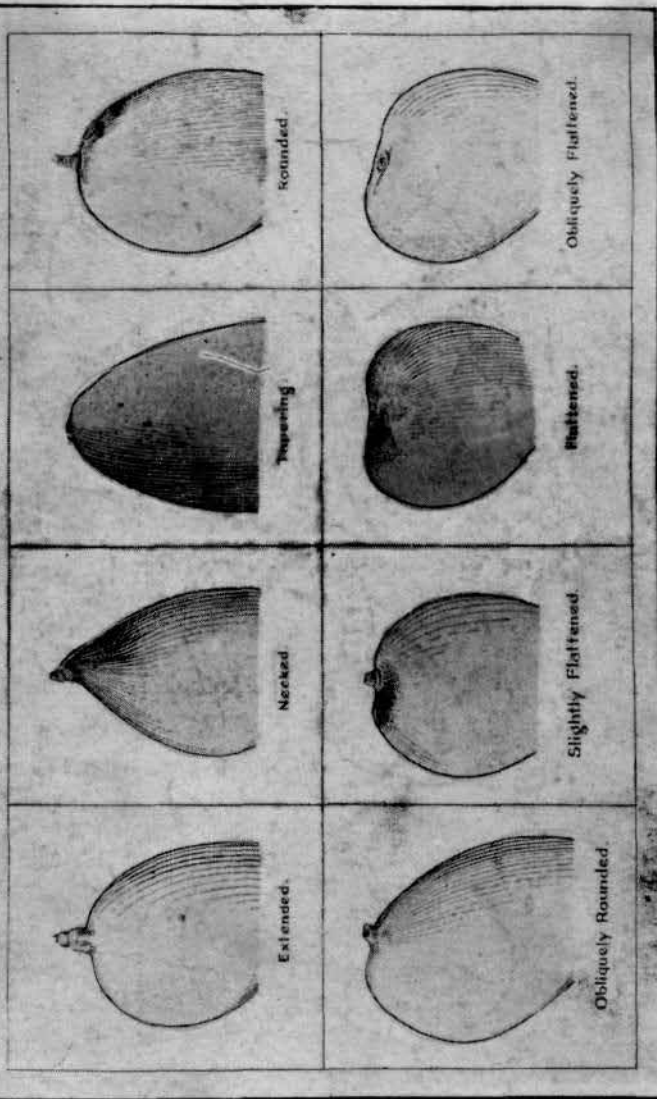
The cavity is absent in some varieties, slight in others or deep in still others (vide Plate No. XI).

The size, shape and prominence of the beak is an easily noticeable and characteristic feature in mangoes. While it is missing or absent in some varieties, in others it may end in a point, be slight but distinct, be slightly prominent, prominent or mammiform or beaked, or again may be straight, hooked or curved (vide Plate No. X).

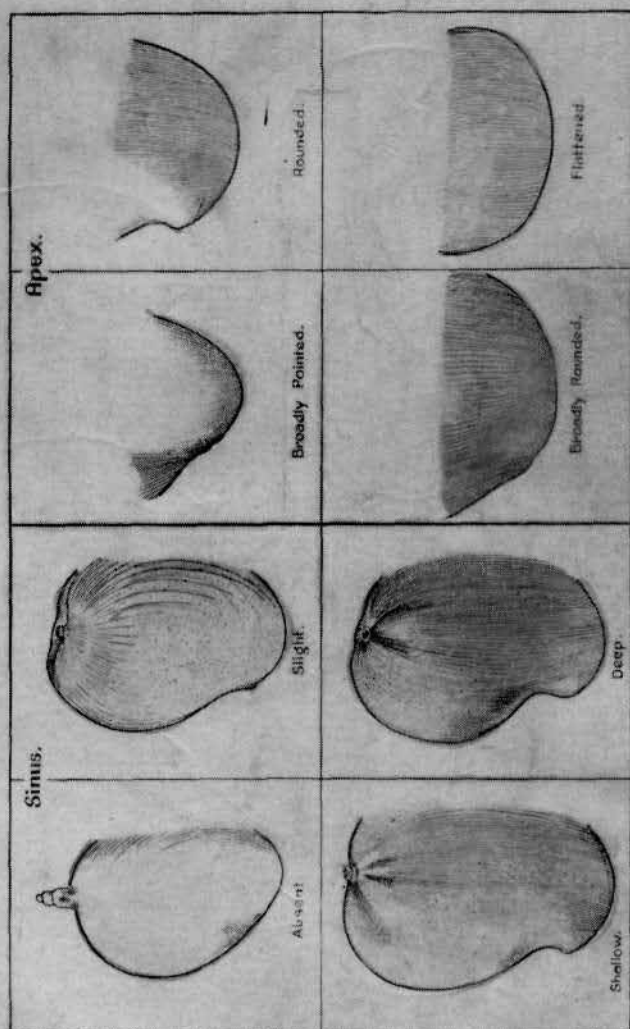
Colour of the fruit with all the various shades and tints affords a useful distinguishing character and is the most difficult for accurate description. A large part of the confusion that now exists is believed to have been caused by the differing standards employed in the past. As in the colour descriptions of the other characters, standard dictionaries by Mearz and Paul (61) and Ridgeway (82) have been employed in the present studies. By colour is meant only the ground colour of the fruit skin and not that of the dots or blush, though the latter is sometimes present on the cheeks or shoulders and is described independently.

The lenticels popularly known as dots in horticultural parlance are usually subcutaneous. They vary in size between varieties as also in the manner of distribution. In regard to the former, only such relative terms as small, medium and large, and with regard to the latter, close, moderately distant or distant are deemed sufficient to bring out the prominent varietal differences.

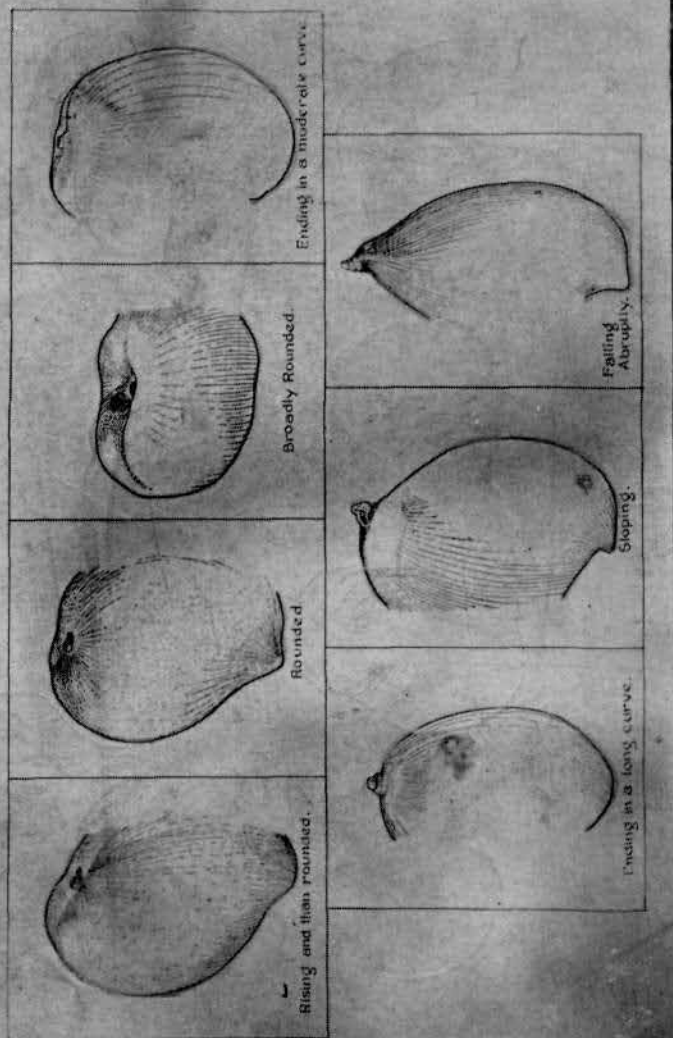
Forms of the base.



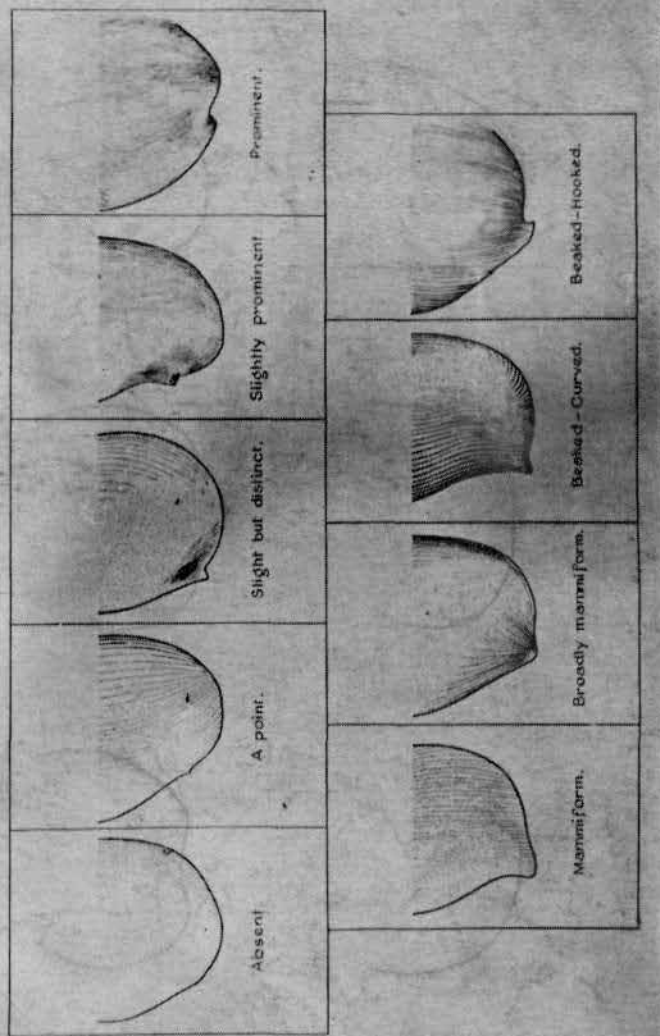
Forms of the Sinus and the Apex.



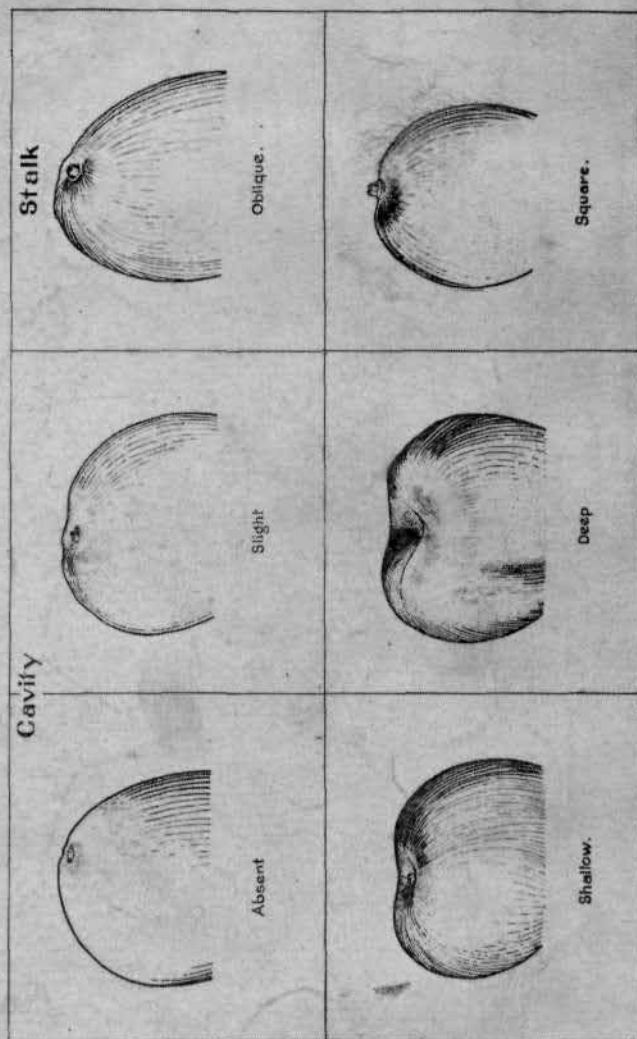
Forms of the Shoulder.



Forms of the Beak.



Forms of the Cavity and Insertion of the Stalk.



Similar relative terminology is employed while describing the thickness of the skin. With regard to the nature of the skin, however, it is found necessary to apply such terms as membranous, leathery or tough or tenacious to feel.

Colour of the flesh is described as in other similar characters with the aid of the colour dictionaries. Texture of the flesh, its aroma, juiciness and taste are some of the important fruit characters which cannot be possibly missed, but in all of which the terminology has necessarily been rather inexact for lack of any accurate standard.

To describe the flesh, such terms like buttery, meaty, soft and firm are considered to be adequate provided that they are accompanied by relative but sufficiently expressive terms indicative of the flavour as pleasant, aromatic, acid, sub-acid, delightful and piquant. The practical value of all these fruit quality descriptions will be enhanced if the above descriptions are completed by a general estimate from a number of independent observations; and this procedure was adopted whenever possible. The use of such terms as poor, fair, medium, good and very good or best are deemed to be all that can be drawn in to render the estimation of quality sufficiently intelligible.

As in the case of the fruit, the form, size and shape of the seed or stone need to be carefully and completely specified. These are required to be accompanied by weights and dimensions. The texture and the position of the fibre seem to afford also some useful information for varietal identification. In some varieties the fibres are confined only to the ventral edge of the seed and do not extend far to the flesh, while in some others they are spread all over. Some varieties are characterized by the existence of a few fibres on the ventral edge and short fibre all over the rest of the surface. The fibres may be coarse, stiff or soft. They may be sparse, abundant or intermediate. The veins on the stone, their prominence and their course are also too important to be left out. They are usually parallel or forked and may be either slightly raised or slightly depressed, and rarely are either grooved or prominently ridged.

IV. DIAGNOSTIC IMPORTANCE OF CHARACTERS

The various attempts made in the past for describing and classifying mangoes have generally suffered from the adoption of unstandardized or ununiform methods. According to Wester (107), the mango classification worked out so far in India is entirely artificial. This is mainly due to the dissimilar degree of importance accorded to various characters by different workers. Popenoe (75), Wester (106 to 107), and Burns and Prayag (22 and 23) had also no difficulty in bringing out the existing anomaly in mango nomenclature, while Popenoe (75) and Richards (81) have emphasized the widespread Indian practice of coining new names to varieties, thereby rendering varietal identification extremely difficult.

A certain amount of confusion has also arisen as a result of a clash between the botanist and the horticulturist in regard to descriptive methods. It is possible for the horticulturist to err by leaning heavily on "Pomological Characteristics" of a few representatives grown in his own collection area, overlooking the fact that his named varieties may under different habitats undergo important modifications. The systematic botanist on the other hand, is liable to base his observations on laboratory studies of a few fruit, leaf or flower specimens, ignoring the immensity of geographical range where mangoes are cultivated and the varied forms in which the clones may exist in different regions, partly due to the influences of environs and culture and partly due to varied propagation methods including the selection of scion parents or bud sports. To the average mango grower distinctness has been the working definition of a variety. The ready recognition of a variety by its fruit shape, fruit size, tree shape, form and size of the leaf, tree size, fruit flavour, rind, pulp colour and aroma, is his main working basis. Several of the finer morphological details which are generally looked for by the botanist, may have no value for the practical grower. According to Hall and Clements (66), such finer details frequently vary with inadequate perspective, and that the characters which are often made much of as a consequence of herbarium studies disappear in the field. Between the two extremes adopted by the pure systematic pomologist and the systematic botanist appears to lie therefore the correct approach.

In any case, it seems necessary to examine the various methods of analyses and description that have so far been attempted or suggested in order to be able to decide upon the most useful and feasible system.

A. VEGETATIVE CHARACTERS.

1. *Tree characters*.—Nicholaisen (67) has explained how the habit of the tree and the nature of the growth are of considerable diagnostic value. Upshall (100 and 101), however, found little differences in growth habits and bark characters in his studies of pear varieties, and little use could therefore be made by him of these characters in distinguishing varieties. Branscheidt (15) has come to the same conclusion and asserts that the form of growth of the tree is not a reliable feature of varieties. Shaw (91 and 92) working on apples emphasized on the other hand, the importance of the form of the top of the tree for taxonomic studies. Nicholaisen (67) has also adduced evidence to show that the weight of the individual plant and the water content of the leaves possess certain amount of varietal importance. Thomson (99) has gone a step further and is of the opinion that the winter wood characters as the epidermis colour, epidermis scaling, the internode length and the nature of the buds also possess considerable taxonomic importance. Grub (42), Upshall (100 and 101), Alderman and Shoemaker (1) and Winter (109) have also found the epidermis colour of the young shoots or the colour of the bases of spines to be useful characters in classifying fruit varieties. In mango, the habit and the nature of growth have been utilized to some extent by Popenoe (75) in describing and classifying varieties, but with this solitary exception no attempts have been made to employ these tree characters for varietal diagnosis, nor do they appear constant, in view of the influences of soils, climate and rootstock.

2. *Leaf characters*.—Crane and Lewis (28) working on the genetics of pears conclude that the leaf and the shoot characters are by far the most useful in classification, on account of the fact that the fruit characters (like the shape of the fruit) are, as a rule, quantitative and controlled by a number of genes. According to them, these characters usually intergrade and are not, as a rule, sharply definable. They further state that since the discontinuity of characters is a pre-requisite for any workable system of classification, it is not improbable when approached through genetical analysis that leaf and shoot characters would be found more satisfactory than those of the fruit. Bunyard (20) points out that shoot leaves are more

constant in character than spur leaves. In mango, Jogiraju (53) has drawn the attention of workers to the importance of some leaf characters, but even he has not employed these for varietal classification. The present studies have disclosed that of all the leaf characters, leaf tip and folding of leaf are the most important, with shape of the leaf and colour of emerging leaves ranking next in importance for grouping or identification of varieties.

(a) *Orientation*.—Hedrick (49) and Bunyard (20) explain how the orientation of the leaf, which strikes the observer at first sight, gives individuality to varieties and consequently possesses considerable systematic importance. Blake and Connors (10), however, postulate that the angle formed by the leaves with the spur varies with the growth status of the plant. While orientation is certainly found to be a useful character for diagnosing varieties in mangoes, it is inapplicable for grouping of varieties because of the fact that, only very few varieties, viz., Himayuddin, Alampur Bane-shan, Chinnarasam and Peddarasam, etc., exhibit distinct differences in this respect in having upheld leaf orientation.

(b) *Shape*.—Alderman and Shoemaker (1), Blake and Connors (10), Upshall (100), Daly (30), Roberts and Colby (84), Southwick and French (94) and Winter (109 and 110) have stressed the importance of the shape of the leaf or the size of the leaf in the rapid identification of varieties, these characters according to them being constant. Drain (33) agrees with this view and adds that the apple varieties could be recognized by the leaves in the middle of the shoots, which are constant for a variety, and concludes that this method forms the basis of variety certification of nursery trees. Shaw (91 and 22), however, points out that the size of the blade varies with its position on the tree in relation to light, but opines that the shape of the leaf is a distinctive feature. The view of Blake and Connors (10) that the leaf form varies with the physiological condition of the tree or the leaves, is more or less in line with the foregoing. Lott (58) on the other hand, finds the shape of the leaflets to be varietal characters, while Bunyard (20) indicates, as already pointed out, that the shoot leaves are more constant than spur leaves.

(c) *Waviness, folding, etc.*—That the flat or folding nature of leaves, their reflexion or crinkling nature and waviness are of diagnostic value in variety identification has been brought by Shaw (96), Thomson (99), French (36), Sefick and Blake (87), Meader and Blake (62), Babone (4 and 5), Daly (30), Grub (43), and Upshall (100 and 101). Shaw (92) indicates that though the intensity of folding is variable according to conditions of weather and season, it is nevertheless a most valuable character in the identification of

varieties. According to Daly (65), spiral turn of the leaves and leaf tip are specially outstanding characters. Folding is a character which has been found in mangoes to be widely applicable and distinctive, while waviness was only less so.

(d) *Leaf tip and margins*.—Shaw (91 and 92), Daly (30), Blake and Connors (10) and Alderman and Shoemaker (1) have pointed out the taxonomic importance of the shape of the leaf base and the leaf tip. According to the two lastmentioned workers the leaf extremities may assume narrow, blunt or sharp-pointed shapes. Blake and Connors (10) state that the apices of the blades of different varieties of peaches form angles which range from narrow to broad, and further infer that margins of leaves of some varieties taper towards the apex nearly in straight lines while in the case of some varieties they curve to the apex. Blake and Connors (10), however, opine that the shape of the leaf tip varies with the growth status. According to Alderman and Shoemaker (1) the shape of the leaf base in apples ranges from broad roundish to tapering or cuneate, which are the reliable characteristics of the varieties. In mangoes, leaf tip has been found to be very distinctive and to provide a very easy and useful diagnostic feature.

(e) *Glands*.—The importance of leaf glands (their nature and distribution) in variety identification has been brought out by Blake and Connors (10), Upshall (100 and 101) and Winter (109 and 110). Branscheidt, (15) however, emphasizes the doubtful distinguishing value of the position of the different types of glands, with which doubts the observations of the present authors are in agreement.

(f) *Colour of foliage*.—Thomson (99), and Alderman and Shoemaker (1) have shown clearly the importance of colour of young foliage in taxonomy. Winter (110) supports the above by the statement that the relative intensity of the colour of foliage is helpful in the study of the varieties. Upshall (100 and 101) has employed the scarcity and abundance of yellow pigments in the leaves for varietal identification. Brian (33), however, points out that though the colour of the leaves is constant in varieties, its utility in taxonomic studies is limited due to the want of suitable charts and also due to the fact that no two persons see colours quite alike, as colour may occur in patches, splashes, streaks, lines, dots or veinings. Shaw (91) concludes that the leaf colour is not helpful in recognizing varieties as the shade of the green depends on the vigour of the trees. This is an observation which applies to only mature leaves, while the distinctive colour of emerging leaves is found in mangoes to be of value, if descriptions are recorded at three stages with the aid of standard colour dictionaries.

B. FLORAL CHARACTERS.

Dahmel Du Monceau (29), Bunyard (20), Pearl (70 and 71), Farrel (35), Babone (4 and 5), Bouquette (4), Blake (11 and 12) and Thomson (99) have all emphasized the value of flower characters for the identification of fruit varieties. Hedrick (49) and Pearl (70 and 71) point out that the inflorescence characters are the least variable and more constant than any other character even under varying conditions. Hedrick (49) also reports that the number of organs and the range of forms of the inflorescence are much more limited than is the case with foliage and branch characters. Krumbholz (56) opines that the system based upon the flower characters is more satisfactory than that based on characters of the vegetative organs or of the fruits. Pearl (70 and 71) considers that the floral characters of the apples provide easy methods of identification of varieties. Branscheidt (15) found the shape and size of the bloom to be of major importance in his studies.

Bunyard (20), Farrel (35) and Branscheidt (15) have observed that the flower bud colour or the colour of the flowers were important diagnostic features. Branscheidt (15), and Blake and Connors (22) found the size of flowers constant and characteristic enough to be also useful. Farrel (35), Pearl (70 and 71), Bunyard (20) and Thomson (99) have emphasized the usefulness of such characters as arrangement of flowers or of pose of the flowers or flower trusses in systematic pomology.

Thomson (99) opines that the laxity or the stiffness of pedicel is characteristic of varieties. Bunyard (20) and Farrel (35) also find in the length and stoutness of the pedicel, helpful characters for varietal identification.

The shape, size, colour and texture of the sepals, structure of the calices, nature of the receptacles, variation in shape of the petals, nature of margins of petals, the relation between the size of the petals and sepals are some features that provide clues in varietal identification according to Blake and Connors (10), Thomson (99), Krumbholz (56), Branscheidt (15), Pearl (70 and 71) and Farrel (35).

Blake and Connors (10) have also classified varieties of peaches on the basis of the number of fruit buds, which the various varieties of peaches and nectarines are likely to develop or set. Wester (107) and Popenoe (76 and 77) indicate that the proportion of perfect and staminate flowers to be varying with the different varieties and races and are constant in each. At Kodur the percentage of perfect flowers was also found to differ with the varieties.

Farrel (35) emphasizes the value of the character of the stamens and styles in systematic studies. Pearl (70) and Hedrick (49) have

paid attention to upright or reflexed nature of stamens in their systematic work. Krumbholz (56), Hedrick (49), Pearl (70) and Bunyard (20) have given considerable attention to the relative lengths of stamens and pistil or stamen and style in their studies. Krumbholz (56) considers also the pubescence, the extent of the union of the pistil and the shape of the stigma to be definite characters helpful in identification. Hedrick (49) finds that the two distinct arrangements of styles, namely, united in a column half their normal length and division of styles to the base, and the stigma adherence to the apex of the fruit, to be of diagnostic value. According to Branscheidt (15), the set of anther and the multiplicity of styles are reliable varietal characters. Branscheidt (15), Bunyard (20), Pearl (70), and Breakbane *et al* (16) state that a knowledge of the comparative time of blooming furnishes a distinguishing feature among varieties. Farrel (35) also considers the season of blooming to afford a reliable varietal character. As in the case of tree and leaf characters, practically no attention has been paid to floral characters by the past workers in mango.

Considering the value of all these floral characters in so far as mango is concerned, the authors have come to the conclusion that shape of the inflorescence is the only character that can help in the grouping of varieties, the rest being either inapplicable or of minor importance.

C. FRUIT CHARACTERS.

As pointed out before, the fruit characters have been almost exclusively relied upon to provide description of mango varieties ever since the beginning of systematic work on this fruit. Dahumel Du Monceau (29), Hog (52), Hedrick (49), Carpenter and Stafford (24), and Babone (5 and 6) are some of the fruit workers who have also based their classification on fruit characters.

{(a) *Shape*.—Hedrick (49) and Drain (33) point out that the shape of the fruit is the best of all the characters for identification. Durham (34), Drain (33), Boswel (13) and Babone (4 and 5) have paid attention to such characters as the shape, volume, size, outline of transverse section of the fruit or length and breadth, and the ratio between the two, in their systematic studies. Sefick and Blake (86) state that the fruits are found to vary in form according to climatic factors and, therefore, suggest that the fruit forms for New Jersey may not be characteristic in all details for the same varieties grown elsewhere.

Burns and Prayag (22 and 23) point out that the results of an arbitrary classification based upon fruit characters may lead a little towards determining ancestral type from which the present varieties

have sprung and may also be of practical importance in producing new forms. They also emphasize that though the classification based upon fruit characters is undoubtedly artificial, it would mean a reduction to some extent the existing chaos in forms and serve as good as natural classification. They suggest the natural classification to follow when the existing forms have been catalogued and described.

Popenoe (76) also gives considerable weight to the shape of mango fruits. Rolphs (85) in classifying the mango varieties grown in Florida, concentrates his attention on the fruit characters, particularly the shape. Woodhouse (111) dealing with mango varieties of Bhagalpur, suggests a system based mainly on fruit characters. According to him the mango varieties are divisible into three main groups. The first group constitutes round-fruited ones. Next comes the Bombay type of fruits which are intermediate between the long straight fruits on one side and short, round or heart-shaped fruits on the other, with a distinctly marked left shoulder and a sinus. The third is the long, oval or rectangular fruit which is considerably longer than broad and which has its left side of fruit approximately straight, with or without a projecting beak.

A somewhat similar classification was suggested by Burns and Prayag (22) in an attempt to classify the mango varieties of the Bombay Presidency. They adopted the method similar to the one resorted to by the International Ampelographic Commission at Kolmar for the classification of grape varieties and indicated that the fruit characters, most important and least variable of which is the shape of the fruit, should be taken into consideration. They have divided cultivated mangoes into three principal classes, namely, the round-fruited, long-fruited, and the intermediate-fruited.

In accordance with the practice and findings of the past workers the importance of the form of fruit has been brought out and utilized in the present studies also, for grouping varieties.

(b) *Colour*.—The colour of the skin or the rind has been paid some attention in the systematic studies of fruits by Boswel *et al* (13), Drain (33), Grasovsky and Wietz (41), Babone (4 and 5) and Hedrick (49). Bunyard (20) emphasizes the faint colour differences, and concludes that the classifications based upon these have practical value when the fruits are seen only in bulk. Boswel *et al* (13) add that the colour of the immature fruit also is helpful in identifying varieties. Bunyard (21) classifies gooseberries into distinct colour classes and also states that all previous workers followed this division. He, however, adds that, as with the most things in nature, such a classification has its limits; and however easy and useful on paper, it is apt to break down when the actual fruits are so placed. According

to Hedrick (49), bloom is highly characteristic of drupe fruits. Grasovsky and Weitz (41) emphasize the importance of the thickness of the rind in variety identification. In mangoes, Wester (107) and Popenoe (76) utilize and give importance to the colour of the skin, the former also adding that the skin colour of mango varieties varies according to race or variety.

(c) *Bases*.—The way of insertion of the stem, the nature and shape of the stem and the shape of the depression are also brought out to be varietal characters by Drain (33), Hedrick (49) and Babone (4 and 5). According to Hedrick (49), the study of cavity enhances the descriptions. He also points out that it is of minor importance in drupe fruits, as there is no basin and its place being taken by a more prolonged apex, though sometimes sunken.

Drain (33), Hedrick (49), and Sefick and Blake (86) stress the importance of the shape of the base of the fruit, and Babone (4 and 5) and Sefick and Blake (86) also of the shape of the apex. According to Durham (34), apex is only a secondary external character in classifying apples and pears. Compared with the form of the fruits, the base, cavity and insertion of stalk are found to be of minor value in mango classification. On the other hand, shape of shoulder and nature of sinus vary between varieties to an extent as to provide useful tertiary characters in grouping of this fruit.

(d) *Internal characters*.—That the varietal characters are not limited to the external parts of the fruits only, has been brought out by many workers. Boswel *et al* (13), Drain (33), Ragan (78) and Babone (4 and 5) have realized the importance of the inner colour of the fruit in classification. Hedrick (49), however, points out that the demarcation of quality is the most unreliable part of the description. Durham (34) opposes this view and points out that the organoplastic character of the taste is useful in classification. Babone (4 and 5) also utilizes the characteristics of taste in his study of olive varieties. Grasovsky and Weitz (41) found the colour of arils and seeds to be diagnostic characters in pomegranates. Babone (4 and 5) emphasizes that weight, volume, length, breadth with the correlation between the last two, the straightness and the curvature of the two longitudinal axes, and striation of the seeds to be also important. He, however, points out that the number of striations may not, by themselves, be affording a valid test. Bunyard (20) is of opinion that the internal characters of apples and pears are not sufficiently stable and therefore may be useful only as secondary points after the preliminary grouping is formed. While quality is open to serious objection as a diagnostic feature, stone characters such as the

venation, extent and nature of fibre are found in mangoes to afford tertiary characters of value.

The foregoing review of literature would seem to suggest that identification of mango varieties is possible only through a careful morphological study of tree, flower and fruit, and that for any rational classification of the fruit the studies have to cover an extensive field, not limited to one morphological feature only such as the fruit, on which alone the past workers appear to have attached the greatest importance.

From the extensive studies reported in this contribution it is possible to present a definite idea on the relative importance of the various characters discussed above in so far as the varietal diagnosis in mango is concerned, along with a list of the characters which are considered as of major importance in such varietal studies and classification. These are discussed in the following lines:—

(1) *Tree characters*.—Observations all over the main mango regions of South India justify the inference that tree shape is by no means a constant and dependable diagnostic feature, since it is considerably influenced by soil, climate, cultural practices like pruning and presumably by the rootstock influence. Considerable variations have been met with in the shape of trees of the same variety growing in different localities. While therefore no absolute reliance can be placed on the shape or outline of the tree as a distinguishing feature between varieties, inclusion of such descriptions may enhance the value by serving as tertiary or confirmatory characters. Branscheidt (15) and Upshall (100 and 101) have held similar views on the unreliability of tree form as a varietal feature.

The size of the shoot on the other hand, was found by the present authors to be a constant character for mango identification, although its utility is open to question in the main grouping of varieties, because of the difficulty in assessing the statistical differences on any satisfactory quantitative basis.

In mango the foliage of varieties presents a fairly wide range of variations, which can be described accurately and recognized easily, and these variations are therefore of help in practical varietal diagnosis.

The orientation of the leaf or the pose of the leaf is one of the first things that strikes the eyes of the observer, being conspicuous even from a distance. In the present studies this character was found to be utilizable, though to a very limited extent. Its use is limited because of the fact that only about half-a-dozen varieties out of the very large number under cultivation displayed wide differences, in most varieties the character being intermediate.

The colour of the mature leaf was not found to be a very reliable characteristic of a mango variety, it being considerably dependent on the vigour of the trees—vigorous ones displaying deeper coloured leaves, while the weaker trees putting forth rather yellowish green leaves. Leaves of trees growing on poor or hard soils like the lateritic rocky soils of the South Kanara district and stony soils of the Chittoor district were less dark in colour than those growing on deep rich soils of Coimbatore and Salem districts. In the black clayey soils of the deltas also, the leaves tended to be paler in colour if a deep digging is not given to the trees once in three or four years. The shade of green was also found to vary between the leaves in the same tree at different periods of growth. Despite these handicaps a broad distinction between varieties grown in the same plot seems possible on the basis of colour of emerging leaves, which are very distinctive as to form useful characters for varietal identification or classification.

Size of the leaf, although has been employed by some workers like Jogiraju (53) and Shaw (90), was not found to be of much value in the present studies on mango. Being primarily an index of the nutritional conditions of the tree, this character is bound to vary considerably depending on environs, culture, etc. The length and breadth measurements may possibly, however, furnish some constant factors for each variety, if subjected to statistical interpretation with samples drawn from different parts. This work, however, could not be attempted in these studies.

Unlike colour and size, the shape of the mango leaf affords a good diagnostic feature for the identification of mango varieties, and its importance has as a matter of fact been realized by the mango growers of the Circars from a long time past. Among them many varieties are known by the shape of the leaves, as for instance, "Ganneru" meaning leaves like that of Nerium, and "Sannakulu"—meaning short leaves. Daly (30), Shaw (90), Blake and Connors (10) and Alderman (1) have also acknowledged the leaf shape to be a reliable character for identification of different fruits they have worked on.

Popenoe (75) has pointed out the importance of the shape of the leaf tip in his study of mango varieties. Jogiraju (53) observes that the narrow tip called the "point" is of some value in the identification of mango varieties. Blake and Connors (10) classified peach varieties according to the magnitude of the angle of the leaf tip. In the present studies the shape of the leaf tip was found to be very constant for a variety, and so was of considerable diagnostic importance, and was accordingly adopted as an important basis of classification.

The importance of such characters as folding, crinkling and twisting of leaves as a varietal feature has also been recognized since a very long time in Southern India. Among mango growers in the Circars there is a common practice to call varieties possessing oval lanceolate, folded, and acuminate-tipped leaves with names ending in "Gova," e.g., Yerra Goa, Ennamandala Goa, etc. It seems therefore logical to retain these already well-known characters in the classification of the fruit; but considering the fact that crinkling and twisting are characters which are not associated with many varieties, while folding is more common, this last character is retained for grouping varieties.

(2) *Inflorescence or Floral characters.*—The value of characters of the inflorescence in furnishing clues to the identification of fruit varieties deserves much wider recognition than has been accorded to it so far. Bunyard (20) and Pearl (70) placed the flower among the most constant of characters in apple and pear varieties. Though classification of fruit varieties by fruit characters has so far been almost the rule, it is believed that the flower characters may offer easier and somewhat more certain methods of classifying fruit varieties. It is true that Popenoe (75) has emphasized the importance of certain characters of the inflorescence in systematic studies of mangoes, but no large application of these characters has ever been made in Indian mango descriptions. The shape of the inflorescence of the South Indian mangoes was found to be constant in each variety and distinct enough to be of considerable diagnostic value, and hence has formed an important plank of the classification attempted in these pages.

The pubescence of the inflorescence has been shown to be a principal distinguishing character in mango by Popenoe (75). The present studies have confirmed the observations of Popenoe on the reliability of this character for identification of mango varieties. Three types of pubescence were observed, viz., densely puberulent, moderately puberulent and sparsely puberulent. As in the colour factor, in this case also considerable error due to personal factor is likely to be involved. Consequently, this character cannot be given much importance in the primary separation into groups, although it has an undoubted place among the tertiary characters.

The relative length of the stamen and pistil has been utilized by workers like Bunyard (19) and Farrell (35) in classifying various fruits. Bunyard (19) has thoroughly discussed the constancy of this character in his works, and Hedrick (99) has also pointed out its reliability. The present studies have also brought out the great importance of this character in describing mango varieties, but

unfortunately enough data could not be secured for employing these factors in the primary grouping.

The importance of staminode development in the identification of mango varieties has been well brought out by Popenoe (75). The observations made in the present study do not, however, agree with those of Popenoe (75), as the character was not found to be very constant. But the inclusion of the peculiarities observed in each variety may help a great deal in enhancing the value of the descriptions.

The proportion of the perfect flowers in a panicle has been found to vary with varieties. Maheswari (60) found five to ten per cent flowers of the panicle with normal ovaries. Wester (107) and Popenoe (77) indicate that the proportion of the perfect and staminate flowers to be varying with different varieties and races, and are constant in each. In the present studies, the proportion of the perfect flowers has varied between the varieties from 3.41 to 16.47 per cent as is seen in Table II.

TABLE II.

SHOWING THE PROPORTION OF PERFECT FLOWERS IN SIXTEEN MANGO VARIETIES.

Variety.	Total number of flowers—total of 6 panicles.	Total number of hermaphrodites—total of 6 panicles.	Average number of total flowers in a panicle.	Average number of hermaphrodite flowers in a panicle.	Percentage of hermaphrodite flowers in a panicle.
Neelum	7,250	1,192	1,208.30	198.70	16.41
Bangalora	6,965	460	1,160.83	76.67	6.61
Nazukpasand	3,269	275	554.85	45.83	8.41
Khader	6,997	759	1,166.17	126.50	10.85
Alampur Baneshan	6,731	234	1,124.83	39.00	3.47
Baneshan	6,270	231	1,046.00	38.50	3.68
Mulgoa	5,427	308	904.50	51.33	5.67
Goa	6,857	1,071	1,142.83	178.50	15.61
Peddakalepad	10,304	1,291	1,717.33	215.17	12.52
Yerra Mulgoa	1,973	89	328.83	14.83	4.51
Amlet	9,545	1,386	1,590.83	231.00	14.52
Pulihora	5,638	558	930.66	93.00	9.88
Kalepad	2,634	221	439.00	36.83	8.38
Imampasand *	3,225	378	537.50	63.00	11.72
Peter *	5,069	378	844.83	63.00	7.45
Buddipasand *	5,151	323	858.50	53.83	6.27

* Trees of these varieties were found to be variable in the proportion of the perfect flowers.

As the process of determining the percentage of perfect flowers in a mango panicle is a highly tedious and time-taking affair, it is

deemed impracticable to employ this character when one has to deal with hundreds of varieties. The variations noted between trees of a same variety is also another factor limiting the value of this character.

(3) *Cropping*.—That weather conditions during the periods of blossoming affect in no small measure the extent of cropping and fruit set has been shown by Dorsey (31), Murneek (63), Langord (57), Srivatsava (95 and 96), Gould (39), Wicks (108), Riabova (80), Vaile (102), Brittan *et al* (18), Hodgson and Cameron (51) and Chitteden (25). Wide variation has also been noted in the time of flowering between varieties of mangoes grown in different and the same environment. Early, mid and late-flowering varieties have therefore been recognized in each region. Branscheidt (15), Bunyard (20), Pearl (70), Farrel (35) and Breakbane *et al* (16) state that the relative date of flowering is a distinguishing feature of varieties, but Durham (34) opines that the season of flowering could only serve as an accessory character in the system of classification of apples and pears. In Florida and West Indies, according to Popenoe (75) the flowering season in mangoes extends from December to April, sometimes blossoms emerging two or three times during the season. Rolphs (85) indicates that in mangoes the time of blooming and ripening varies somewhat in different varieties in different years and that in Florida the blooms appear and fruits ripen a little later in the north than further south. The explorer in charge of U.S. Department of Agriculture, as quoted by Higgins (50), also holds almost the same view, adding that the period at which mango flowers in Florida varies more or less with the seasonal conditions. Hartless (45), Collins (26), Popenoe (75), Burns and Prayag (22), Paddock (68) and Baily (6) are yet other workers who confirm the influence of seasonal conditions on the extent of flowering or time of flowering. Rolphs (85) explains this feature by showing how a good blooming is observed when a severe check is caused to the growth of the plant, as when a protracted drought is followed by a soaking rain. Collins (26) and Popenoe (75) also feel that the long duration of warm weather proves beneficial at the time of flowering of mangoes. Popenoe (75), and Burns and Prayag (22) also describe the adverse effect of cloudy weather on the mango flowers and mango pollen. Hartless (45) has also stressed the inhibitory effect of wet periods during certain seasons of the year on the flowering of mangoes. Popenoe (75) contends that, for mangoes the total amount of rainfall is not so important as the season during which it occurs. From a general study of the rainfall and flowering records at Kodur it appears that a prolongation of rainy season up to the end of November results in a poor flowering of mangoes. It was also seen that rains during January

even in a year of good flowering, resulted in poor fruiting. These instances together with the observations of other workers seem to support the view that the influence of the environmental or weather conditions on tree performance is real and tangible. The utilization of such a character dependent on a variety of exigencies can but be of little utility in classification. Observations made during the present studies showed that the time of flowering was a month earlier in the West Coast than in the East Coast for the same varieties and also that, the same varieties flowered earlier in the sea coast than in the interior. The method of classifying fruit varieties on the basis of relative dates of flowering cannot possibly be of value in mangoes, in as much as the time of flowering is subject considerably to the weather and environmental conditions.

Nutritional conditions in soil may and do also exert a profound influence on the season of flowering. Wallace (103) on the basis of pot culture experiments showed that the omission of nitrogen and phosphorous from stock nutrient solutions delayed the time of opening of blossom buds, while the omission of potassium frequently advanced it. Dorsey (32) observes that opportunities for fruit bud formation increase with tree vigour, but when growth is excessively vigorous it may be inhibitory to fruit bud formation. Hartless (45), and Galang and Lazo (37) also found that in mangoes rank vegetation resulted in poor flowering. Gourelly (40) and Swarbrick (97) have, on the other hand, found that overleafiness inhibits blossom bud formation. Swarbrick (97) and Gossard (38) show how maximum amount of growth early in the season followed by a period of dormancy results in enhanced flowering in trees. These provide additional evidence to show how both the date and extent of flowering are governed by a large array of factors, as a result of which, the value of these characters in mango classification is further detracted.

The number of times the blossom appears in a year has been noted to differ with varieties at Kodur (65) in some years, as also the tendency of some varieties to bear two or more crops in a year. At Sabour according to Sen (89), Baramasi flowers twice a year, once in January-February and again in May-June. Tahmankar (98) has gone to the extent of suggesting that the classification of mango varieties may also be done by grouping them into those that flower every alternate year, those that flower every year and those that flower in September-October or both in January and September-October. This is contested by Rolphs (85), who points out that this peculiarity of repeated blossoming seems to be independent of the variety and must be ascribed to peculiar climatic conditions. Sometimes the bloom is produced but once per year, sometimes two blooming

periods occur, sometimes the tree blooms several times. In the course of the present studies it was observed that blossoms appear in certain regions like the Tenkasi tract during all parts of the year, while the same varieties flower normally only once elsewhere. The suitability and application of the off-season flowering character, therefore, appears to be of doubtful value in mango classification studies.

According to Popenoe (75), scanty fruiting of many mango varieties is not due to any morphological defects in the pollen or due to defects in the mechanism of pollination. He concludes that the problem is more a physiological one connected with the nutritional conditions as influenced by the changes in soil moisture and food supply, principally the former. Results of Kraus and Kraybill (55), Kobel (54) and Watts (104) show that the balance between carbohydrates and nitrogen is operative in the fruiting responses of plants or trees. Reed (79), Harvey and Murneek (46), Mac Danniels and Heinicks (59), Cooper (27) and Srivatsava (95 and 96) have also brought out that the nutritional conditions contribute a good deal towards the setting of fruits. Roberts (83) working on apples infers that trees intermediate in growth are most fruitful. Patridge (69) found that the average yield per tree in apples increasing as the amount of growth increased. Swarbrick (97) mentions that the age, position and vigour of spur materially effect tree performance. Batchelor *et al* (8) and Hatton (48) however conclude that the inherent character of the tree or scion is one of the most important factors governing successful fruit production. Bailey's (6) experience has been that the crop varies greatly in different seasons, and therefore, it has been impossible to fix a certain quantity as the average yield of any one variety. Performance of the mangoes in one year has been found at Kodur to exert considerable influence on the growth, and consequently, the cropping of the tree in the next year (64). Pickering (72), Gourelly (40) and Auchter (3) also report on the inhibitory effect of a heavy crop of fruits on the growth and performance of the tree in the succeeding year. Hartless (45), Burns and Prayag (22), Singh and Khan (93) believe that the mango is definitely a biennial bearer. Popenoe (75) has found *Mulgoa* yielding a good crop on an average once in four years. Naik (64) on the other hand, believes that good or bad cropping years occur at indeterminate intervals, and that alternate bearing as such does not exist in the mango. Sen (89) points out that some varieties having the least number of mixed panicles show most marked alternate bearing habit, and less intense alternate bearing is observed in those which are characterized by a good deal of such panicles. Considering

all the abovementioned arguments the inference seems justifiable that no reliance can be placed on any aspect of flowering or fruiting as a major character in the classification of mango varieties.

(4) *Fruit characters*.—As was already mentioned, these are the most widely employed characters of the mango on the hands of the systematic horticulturists. No other single structure in mango gives so many morphologically important characters as the fruit. Many of the classifications available at present and the separation of the large groups have, therefore, been made by using largely, if not entirely, the fruit characters. Much light has been thrown on this aspect by Bunyard (20), Blake and Connors (10), Dahumel du Monceau (29), Durham (34), Popenoe (75), Pope (73), Burns and Prayag (22), and Woodhouse (111). Burns and Prayag (22) assert that the least variable character of the fruit in a given variety is the shape of the fruit. According to Rolphs (85), general shape of the fruit may be used to good advantage as one of the characters to separate groups. The shape of the mangoes studied by the present authors has been found to be constant under different environmental conditions. Because of these facts it has proved to be of much value and is so considered in the present classification.

The importance of the shape of the shoulders of the fruit has been well brought out by Burns and Prayag (22), Popenoe (75), Woodhouse (111) and others. In the course of the present investigations this character was also found to be very constant for each variety. Hence this character is of undoubted importance as a distinguishing feature.

Colour of the fruit has also served so far as a principal distinguishing character in many fruits. Much reliance cannot, however, be placed on this character as firstly, the intensity of colour depends considerably on the amount of sunlight received by the fruit and so is variable; secondly, in describing colour the personal factor is involved; and thirdly, the natural colour cannot be accurately gauged with the colour charts as it is not uniform but found in streaks and splashes. Nevertheless, colour has become so important in common usage as a distinguishing feature, that its retention in these studies as one of the confirmatory characters seems justified.

Shape of the beak has long been recognised as a very marked feature in mangoes. The instances of varieties named after the beak in the existing nomenclature shows the utility and the reliability of this character in classifying mango varieties. Many other fruits have also been classified on the basis of the beak. Blake and Connor (10) have used it as an important character in classifying peaches. Burns and Prayag (22), Woodhouse (111) and Rolphs (85) have,

discussed the reliability of using the beak as a principal separating character. Observations on the mango varieties of South India have also shown that beak is a constant character which can be relied upon for identification of varieties.

To associate varieties into groups it becomes necessary to consider only a few characters that are more or less distinctive and easily recognisable. Rolphs (85) points out that the description of the fruit with its outward appearance and edible portions has been a time-honoured method of separating varieties. He says that the shape of the mango is so peculiar that it almost defies a description that is intelligible to the average reader and, therefore, good photographs and coloured plates are best for the purpose. These are views which seem to be eminently fitting and consequently every effort has been made in these studies to illustrate the specimens along with the descriptions.

The cavity or depression at the insertion of the stalk is one of the important characters in all fruits, particularly in pomes. That it is not of less importance in the study of mango varieties is shown by the popular tendency in Malabar to name some varieties after the shape of the cavity, e.g., *Nyatti-Kuzian*—*Kuzian* meaning a deep cavity. However, differences with regard to the cavity are not very common in mangoes, so that this character could only be used for completing the descriptions.

Base, sinus and apex afford characteristic features which have been utilised in describing several fruits. The variations being few and the utility of these characters being limited in the case of base and apex, they could only be helpful for enhancing the value of the description, but not for classifying varieties. In the case of sinus, it is found to be a useful means for varietal identification.

For the same reason of restricted variations, the lenticels, which are popularly known in horticulture as dots, appear to be of little importance, except for enhancing the value of descriptions. The size and distribution of the dots are no doubt characteristic of varieties, but they do not lend themselves to utilisation as major separating characters. They, however, help to a great extent in distinguishing very closely related varieties.

The method of insertion is a more useful feature, but it also does not vary sufficiently to make it valuable in classification. Wester (107) and Berwick (9) have brought out the importance of the method of insertion of the stock to the fruit as a diagnostic feature of mango varieties. But it is found from the present data that only very few varieties could be separated out on the basis of this

character. Therefore, this character can claim only a place among the confirmatory characters.

Since a very long time past, the practice of naming and classifying mango varieties on the basis of the character of the juice has been in vogue. In the Telugu districts some of the commercially cultivated varieties are classed by the general public as 'Kothamamidies' or fruits free from fibre, and 'rasalus' or juicy fruits. Allan (2) suggests the use of the character of the juice as an important feature in identifying varieties of mangoes. It is difficult to concur with this view, since the present studies have shown that very few varieties can be separated on the basis of juice; though fibre is definitely found to be more helpful.

As in the case of the colour of the fruit, the colour of the flesh cannot also be taken as a very reliable distinguishing character for the identification of mangoes, for the reasons mentioned under the former. Durham (34) has, however, utilised the colour and constancy of the flesh as a principal factor in grouping of apple varieties. Bunyard (20) states that internal characters are not sufficiently stable as to be made use of in forming a key, but he agrees that they can be used as secondary or confirmatory characters. The observations and studies of the present authors support this view.

In the popular classification of fruit varieties, flavour and taste are perhaps the leading characters. Similar to the colour factors, these two characters have no definite standards to gauge. No two persons will adjudge the flavour and taste alike. Therefore, much reliance cannot be placed on this character in the classification of mangoes, although when samplings are made by a large number of persons, they can well be of some importance as confirmatory characters.

The seed of mango presents several important characters taxonomically. Popenoe (75), Rolphs (85) and Pope (73) have brought out the value of the stone characters in describing mango varieties. The nature and course of the veins, according to Rolphs (85), form very important varietal features which, he says, though difficult to be described, could be brought out vividly by line drawings. In the present studies the nature and distribution of fibre and nature of veins on the stone were also found to be characteristic of the variety. Examination of the specimens of the same variety obtained from different parts of the Presidency did not show also any material differences with regard to these characters, which are therefore given sufficient importance in the present studies.

Higgins (50) has suggested that mangoes could be classified into two primary divisions, viz., monoembryonic and polyembryonic.

In a later paper (51) he stated that, such a division is not possible as polyembryony occurs even among monoembryonic varieties. According to Hartless (45), Burns and Prayag (22) and Popenœ (75) all the Indian mangoes are monoembryonic, while the last worker pointed out that a large number of varieties in other countries are highly polyembryonic. However in a later paper Popenœ (75) reports that the monoembryonic Mulgoa reverted to polyembryony in the first generation in Florida. Rolphs (85) opines that this division is untenable since polyembryony occurs in such divergent forms as the Cambodiana, No. 11 and Florida Bombay. He found on the same tree of No. 11, monoembryonic and polyembryonic seeds. Even the varieties that are polyembryonic produced some trees that varied considerably as No. 11. Similar observations were made by Sen and Mallik (88) and Rolphs (85) with the varieties of South India and Elanor respectively. Observations on the nature of polyembryony made at the Fruit Research Station, Kodur (65 and 66), showed that some proportion of the seeds from polyembryonic varieties produced only one seedling each. From the foregoing review it is clear that the division of the varieties into monoembryonic and polyembryonic groups is of doubtful value in the classification of varieties.

V. BASIS OF NOMENCLATURE

In India mango nomenclature has always been a matter of personal judgment. This coupled with the wealth of newly springing choice seedling trees that are being vegetatively propagated frequently and the prevalent system of having mixed plantations stocked with numerous varieties, have added enormously to the confused list of so-called varieties. With countless seedling trees of mango scattered over the whole country and with the ease with which mango is perpetuated by inarching, it is easy enough to add to the varietal list. There is nothing at present to restrict any one to name or rename a variety or even to sell plants under a false name, regardless of the interests of the public. This unfettered freedom has created a situation which is already bewildering and perplexing and which is likely to become a growing menace as time passes on.

To the vast number of extant synonyms and mistaken nomenclature the enthusiastic mango producer as well as the private mango nursery trade have both contributed their quota. Accurate identification is rendered most difficult, since the names change often from person to person and place to place. The absence of any statutory control over the sale of fruit plants is possibly the most potent cause for the widespread tendency to coin names.

The basis of naming varieties is not limited only to the desire of individuals to perpetuate their own names or of those whom they admire or regard with affection. Often, names are coined to denote the supposed virtues of the variety, this being specially characteristic of the names coined by the nursery trade. The following list serves to bring out the varied standards adopted in the south of India in selecting names for mango varieties :—

After persons.—Allipasand, Abbasi, Hafecz-be-gola, Imampasand, Mundappa, Appayya Shetty, Kini, etc.

After titles, designations or surnames.—Bishop, Maharajah, Collector, Reddipasand, Jailor, Nawab, Razumanu, etc.

After historic personalities.—Shivajipasand, Shahjahan, Jehangir, Nurjehan, etc.

After romantic ideas.—Dilpasand, Doodmishri, Doodiamulgoa, Verpanas, Khudadad, Kurkan, Kudurekukku, Laddu, Manoranjan, Navaneetham, Nazukpasand, etc.

After surroundings.—Alampur Baneshan, Akirpalli Nalla Rasam, Asakapalli Baramasi, Banganapalli, Calcutta Baramasi, Innanje, Moolki No. 1, Kadiri, etc.

After colour of the fruit.—Bannada Kukku, Bangarumamidi, Suvarnarekha, Yerra Ayodhya, Thella Ayodhya, Yerra Mulgova, Bhaggunda, Nemilikhantam, etc.

After the shape.—Gummadi Ganneru, Gundra Banganapalli, Sora Mamidi, Dondakayalumanu, Gundu, etc.

After size.—Jampulu, Majjivalasa Veesamanu, Pedda Khader, Bodugu Banganpalli, Pedda Mamidi, Pedda Suvarnarekha, etc.

After the morphological features.—Mukku Rasam, Nyattikuzian, Thupaki madiyam, Gilli Kukku, Killi Mukku, etc.

After taste of the fruit.—Sherbatanar, Seethaphal Gola, Athimadhuram, Duniachakkar, Sakkargutli, Rasabale, Amruthakalasa, Amrutharasayanam, Panakalu, Panchadaralamanu, Panchadarakalasa, etc.

After smell of the juice.—Kothapalli Kobbari, Thenneru, Noonepaasand, Jami Mamidi, etc.

After consistency of the pulp.—Pacharisi.

After fibrousness of the fruit.—Mettavalasa Peechumanu.

After the use to which it is put.—Theya Mamidies.

After the appearance of the tree.—Assalu Ganneru, Pedda Ganneru Razu Ganneru, Sannakulu, etc.

Nomenclature of plants is essentially a matter for international action. In the 12th International Horticultural Congress held in Berlin in 1938 it was suggested "that a permanent commission should be doing nomenclature work in every country." This suggestion has not been implemented in India. But some countries like the United States of America have standardized the methods by evolving their own codes. The Code of Nomenclature of the American Pomological Society is the one that has been generally accepted as the most appropriate and comprehensive. Among the several provisions made in that code, the following seem relevant while reviewing the mango nomenclature in this country :—

(1) Names thoroughly established in pomological literature shall not be displaced.

(2) A name when published shall have precedence over a later printed name for the same variety.

(3) New or unnamed seedling selections under test may be designated by number, letter, code term or by other tentative means.

(4) Renaming a variety having an established name is declared unethical.

(5) The complete description of a variety shall consist of a detailed account of the characteristics of the plant, foliage, flowers, fruit, season and habit of growth.

According to the foregoing it seems imperative to deem all the existing names as established names and therefore deserving priority

on the score of usage. When there are several names for a variety, a rule of priority has to be adopted, according to which the oldest or most commonly known name is placed first and all other names are denoted as synonyms. This procedure has therefore been adopted in the present contribution. For chance seedlings and hybrid progenies selected or evolved at the Fruit Research Station, Kodur, numbers have been allotted, in accordance with the provisions of the American code. In tune with its provisions also, complete descriptions of every variety are furnished elsewhere in the text, so that the present contribution may serve as a work of reference in so far as the South Indian mango varieties are concerned.

It is recognized, however, that the present studies form only a preliminary to the urgent and more important task of cataloguing, describing and classifying the mangoes of the country as a whole. To provide an insight into the problem of variety selection based on an accurate recognition of the important varietal characteristics, the study of the country's mango wealth has to be extended far beyond the bounds of the region covered by the present authors. For effecting a final solution to the vexed question of mango nomenclature and classification, a plea is therefore made here for initiating a comprehensive nation-wide measure. Such a measure has to include the establishment of a national committee to catalogue varieties, codify names and issue a standardized system of classification for the whole country. The committee has to be on a permanent basis, since variety situation is continuously changing and the collection of descriptions is not a work which can be completed in a short space of time. Some idea of the time involved is evidenced from the fact that about ten years had to be spent in spotting, describing and compiling the present studies covering 335 varieties only of South India. Development and introduction of new varieties as well as the efficient conduct of research for the improvement of the existing varieties render a continuous study of varieties imperative. Nothing less than a co-ordinated attack on the variety problem will meet the situation, and therefore, a national committee on the lines recommended by the last International Horticultural Congress is deemed essential.

VI. KEY FOR THE IDENTIFICATION OF VARIETIES

In a previous chapter the relative importance of the various characters has been discussed. On that basis the characters have been grouped under three categories, viz., primary, secondary and tertiary. The manner of this grouping is illustrated below :—

1. *Primary characters.*

- (1) Form of the fruit.
- (2) Form of the beak.

2. *Secondary characters.*

- (1) Form of apices of leaves (leaf tip).
- (2) Folding of leaves.

3. *Tertiary characters.*

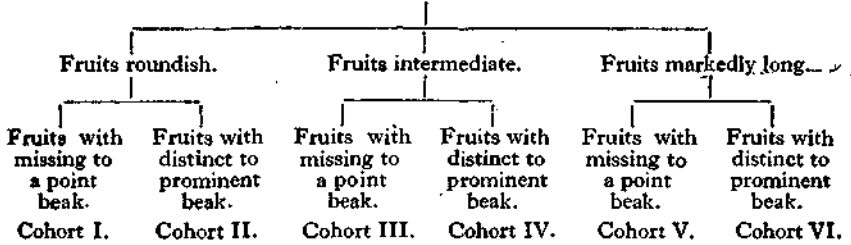
- (1) Shape of the inflorescence.
- (2) Shape of the leaves.
- (3) Nature of venation of stone.
- (4) Fibre and nature of fibre on the stone.
- (5) Shape of shoulders.
- (6) Nature of sinus.
- (7) Colouration of the emerging leaves.

The primary characters mentioned above are employed to distinguish the varieties within the main groups or cohort, the secondary characters are used to distinguish the sub-groups or classes, while the tertiary characters are intended to distinguish the varieties within each class or sub-groups.

The tertiary characters are either influenced to a small degree by environment or they do not differ markedly between varieties to an extent as to detract their value for distinguishing varieties when used by themselves. However, in combination with other characters they have been found to be of definite value, especially in distinguishing varieties within a region.

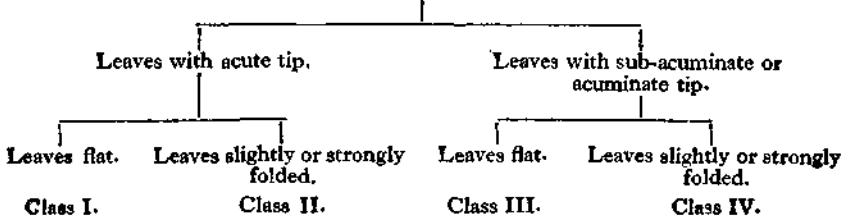
The construction of the following key has been based on the manner of grouping the characters as explained above. The key permits its use to place new varieties with those having closest affinities to it. For this reason and because of the lack of representatives possessing the requisite combinations of characters, the key has to be necessarily left incomplete with some representatives not finding ntion under certain classes.

SOUTH INDIAN MANGOES



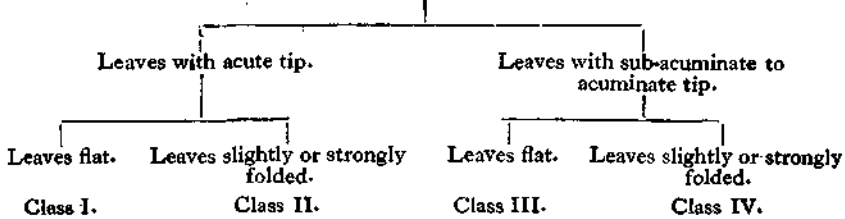
COHORT I

Fruits roundish with missing to a point beak.



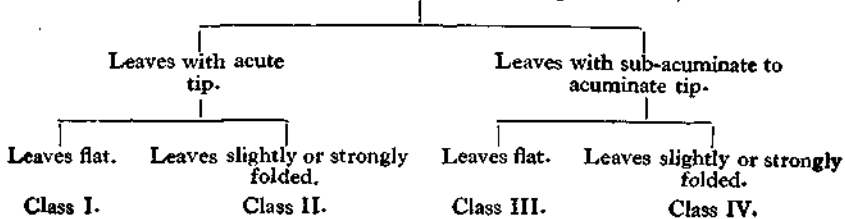
COHORT II

Fruits roundish with a distinct to prominent beak.



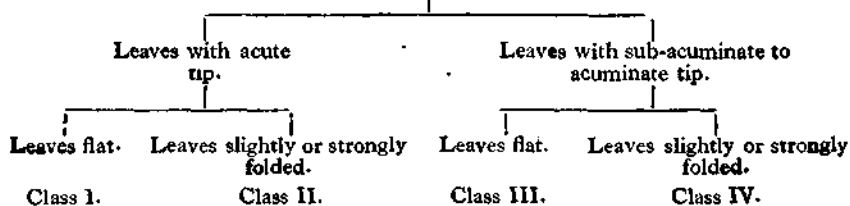
COHORT III

Fruits intermediate with a missing to a point beak.

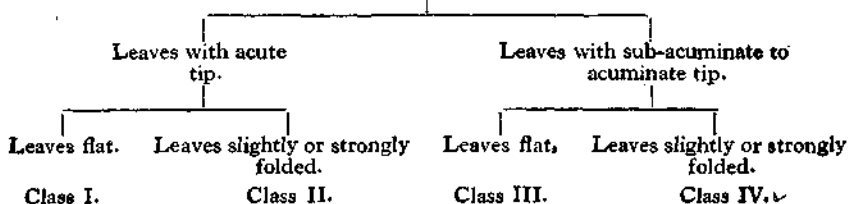


COHORT IV

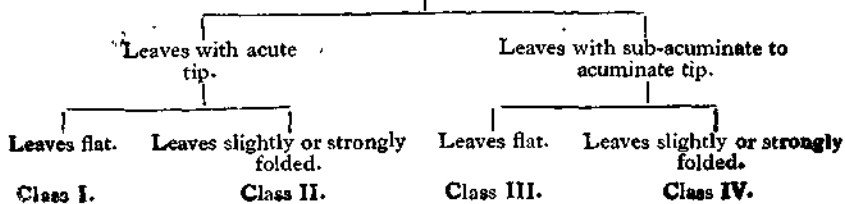
Fruits intermediate with distinct to prominent beak.

**COHORT V**

Fruits markedly long with a point or missing beak.

**COHORT VI**

Fruits markedly long with distinct to prominent beak.



VII. VARIETY DESCRIPTIONS

In the following pages, descriptions of every variety of mango under cultivation in South India are listed under their respective cohorts. For a reference to any particular variety, attention is invited to the index at the end of this monograph.

In the case of hybrid and chance seedling progenies, the descriptions are given separately at the end, since they could not be classified yet for lack of accurate descriptions of floral characters.

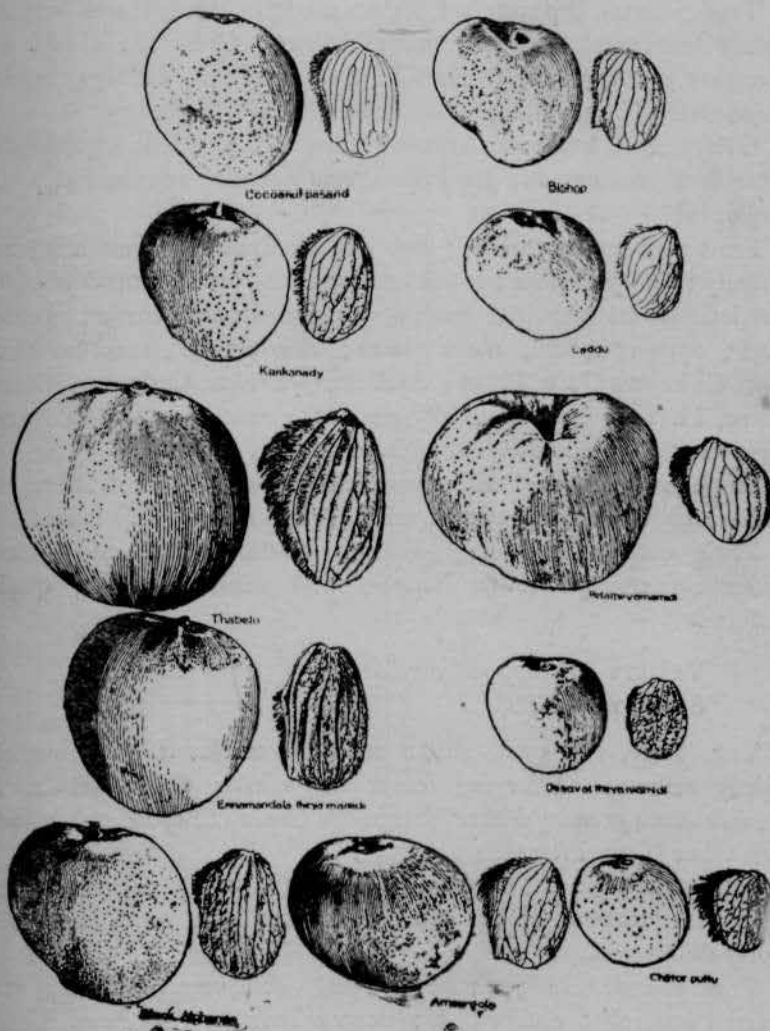
With a view to rid the descriptions from a great deal of quantitative data relating to fruit, inflorescence and stone measurements, these data are presented separately in Appendix.

In the descriptions, the name of the main growing region of the variety is given in parenthesis after every varietal name. The confirmatory characters of each variety are in *italics*. References to colour in parenthesis relate to the standards of Mearz and Paul (61) while the preceding colour descriptions relate to the standards of Ridgway (82).

PLATE XII

COHORT I—CLASS I.

Fruits roundish with a missing or a point beak. Leaves acute and flat.



COHORT I—CLASS I

Fruits roundish with a missing or a point beak. Leaves with acute tip and flat.

VARIETY—*Coconutpasand* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick, leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Isabella Colour* (L. 6, Pl. 13), *turning Grape Green* (L. 2, Pl. 14).

Inflorescence medium, Mineral Green (L. 3, Pl. 20), moderately puberulent, *stamens and pistil equal and parallel*, staminodes poorly developed.

Fruit medium, roundish ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; apex rounded ; *sinus absent* ; skin smooth, medium thick, Light Cadmium (L. 6, Pl. 9) ; flesh firm, *fibreless*, Cadmium Orange (L. 10, Pl. 10) ; flavour mildly pleasant ; taste moderately sweet ; juice scant to moderately abundant.

Stone oval, covered all over with sparse, short, soft fibre and medium on the ventral edge ; veins forked and *slightly raised*.

Fruit quality medium ; bearing medium and mid-season ; moderately susceptible to hoppers and wind. Keeping quality medium.

VARIETY—*Bishop* (Mangalore).

SYNONYM—Nil.

Tree large, top oval, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Mignonette Green* (L. 1, Pl. 22), *turning Ecrú Olive* (L. 5, Pl. 14).

Inflorescence medium, Cource Green (L. 1, Pl. 12), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit roundish oblique ; base slightly obliquely flattened ; stalk inserted squarely ; *cavity deep* ; *ventral shoulder equal and slightly higher than dorsal*, ventral shoulder rising and then rounded, dorsal shoulder rounded ; beak absent ; *sinus shallow* ; apex rounded ; skin medium thick, Cadmium Yellow (L. 7, Pl. 9) ; dots medium, close ; flesh firm, Deep Chrome (K. 7, Pl. 10), *sparsely-fibrous*, *fibres medium and soft* ; flavour aromatic ; taste medium sweet ; juice fairly abundant.

Stone oval, with short fairly abundant fibre all over, veins forked ; and *slightly raised*.

Fruit quality medium to poor ; bearing medium and mid-season ; moderately resistant to wind and hoppers ; keeping quality poor.

VARIETY—*Kankanady* (Mangalore).

SYNONYM—Nil.

Tree large, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Light Brownish Olive* (L. 11, Pl. 15), *immature growing leaves Buffy Olive* (L. 7, Pl. 15), *turning Buffy Brown* (G. 10, Pl. 14).

Inflorescence medium, Light Jasper Red (J. 9, Pl. 4), *moderately puberulent, pistil equal and parallel to stamens*, staminodes poorly developed.

Fruit *medium, roundish* ; base slightly flattened, stalk inserted squarely ; *cavity shallow* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; apex rounded ; *sinus absent* ; skin smooth, medium thick, leathery, Capucine Yellow (L. 8, Pl. 10) ; dots medium, moderately distant ; flesh firm, Deep Chrome (L. 7, Pl. 10), slightly fibrous near stone ; flavour aromatic ; taste sweet ; juice moderately abundant.

Stone oval, covered with sparse, short, coarse fibre all over, veins forked and *slightly raised*.

Fruit quality medium ; bearing poor and late ; moderately susceptible to hoppers and resistant to heavy winds. Keeping quality medium to good.

VARIETY—*Laddu* (Kumaranallur).

SYNONYM—Nil.

Tree *small*, top rounded, *shoots slender*. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Ecrú Olive* (L. 5, Pl. 14), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence *small*, *Isabella color* (L. 7, Pl. 14), *sparsely puberulent, stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small to medium, roundish*, base flattened and slightly extended ; stalk inserted squarely ; *cavity shallow* ; shoulders equal, level and rounded ; beak absent, *sinus slight to absent*, skin medium thick, leathery, Cadmium Yellow (L. 7, Pl. 9) ; dots small, moderately distant ; flesh firm to meaty, *fibreless*, Light Cadmium

(L. 6, Pl. 9); *flavour pleasant; taste sweet to very sweet; juice moderately abundant.*

Stone oval, covered all over with soft, short, sparse fibre, *veins forked and slightly depressed.*

Fruit quality good. Bearing medium, mid-season; fairly susceptible to hoppers and resistant to wind.

VARIETY—*Thabelu* (Pithapuram).

SYNONYM—*Gangadhar Rao Rama Rao Pasand.*

Tree large; top rounded, shoots slender to medium thick. Leaves outheld, slightly reflexed and *heavily crinkled.* *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Dark Citrine* (L. 6, Pl. 15).

Inflorescence medium, *Hellebore Green* (L. 3, Pl. 15), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate roundish*; base flattened; stalk inserted squarely; cavity absent; shoulders equal, level and broadly rounded; beak and *sinus absent*; apex flattened; skin medium thick, smooth, Mustard Yellow (L. 3, Pl. 9); dots medium; moderately distant; flesh soft, fibreless, Light Cadmium (L. 6, Pl. 9); *flavour mildly pleasant; taste sweet; juice moderately abundant.*

Stone oval, covered with short, soft fibre all over, *veins forked and slightly depressed to grooved.*

Fruit quality medium to good, bearing poor, mid-season; fairly susceptible to hoppers and highly susceptible to winds. Keeping quality good.

VARIETY—*Peta Theya Mamidi* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Pinnard Yellow* (L. 1, Pl. 18), *turning Medal Bronze* (L. 9, Pl. 15).

Inflorescence medium, *Testacedus* (F. 10, Pl. 4), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *large, ovate roundish*; base flattened; stalk inserted squarely; *cavity deep*; ventral shoulder equal and level with dorsal and broadly rounded, dorsal shoulder rounded; *sinus slight to absent*; apex broadly rounded to flattened; skin medium thick, fairly rough, Cadmium Yellow (L. 7, Pl. 9); flesh soft, Light Cadmium (L. 6, Pl. 9), *slightly fibrous, fibres medium and soft; flavour*

mildly pleasant ; taste medium sweet when ripe, very sweet when raw ; juice scant.

Stone roundish oval ; covered with sparse, short, soft fibre all over and medium on the ventral edge ; *veins forked and slightly depressed to grooved*.

Fruit quality medium as a dessert fruit and good as a raw fruit. *Highly susceptible to hoppers and winds*. Bearing medium and early ; keeping quality medium.

VARIETY—*Ennamandala Theya Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed. *Emerging leaves Medal Bronze* (L. 9, Pl. 15), *immature growing leaves Citrine* (J. 7, Pl. 14), *turning Warbler Green* (H. 2, Pl. 14).

Inflorescence medium, Picric Yellow (L. 1, Pl. 19), *densely puberulent, stamens and style equal and parallel*, staminodes well developed.

Fruit large, *roundish* ; base obliquely flattened, stalk inserted squarely ; *cavity slight to shallow* ; shoulders equal and ventral shoulder slightly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; apex rounded ; *sinus absent* ; dots small and distant ; skin thick, tough, smooth, Primuline Yellow (L. 6, Pl. 10) ; flesh soft, Maize Yellow (J. 2, Pl. 9) ; *sparsely fibrous*, fibres small to medium and soft ; flavour pleasant ; moderately sweet when ripe ; very sweet when raw ; juice scant.

Stone oblong oval ; covered with coarse, short, sparse fibre all over and medium, on the ventral edge. *Veins forked and slightly depressed to grooved*.

Fruit quality medium when ripe, good when raw. Bearing medium, mid-season ; *highly susceptible to hoppers and winds*.

VARIETY—*Desavali Theya Mamidi* (Nuzvid).

SYNONYM—*Nuzvid Thiya Mamidi*.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Olive Lake* (K. 5, Pl. 13), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Etruscan Red (J. 2, Pl. 5), *densely puberulent, stamens and pistil equal and parallel*, staminodes well developed.

Fruit small to medium, *roundish*; base flattened; shoulders equal, level and rounded; stalk inserted squarely; *cavity shallow*; *sinus slight*; apex broadly rounded; skin medium thick, leathery, smooth, Primuline Yellow (L. 6, Pl. 10), *with a blush of Capucine Yellow* (L. 8, Pl. 10) *on shoulders*; dots medium, moderately distant; flesh soft, Primuline Yellow (L. 6, Pl. 10), *very slightly fibrous near the stone*; flavour pleasant; medium sweet when ripe, sweet when raw, juice scant.

Stone roundish oval; covered with short, soft fibre all over; veins parallel and slightly depressed.

Fruit quality good when raw, medium when ripe; bearing heavy, early but highly susceptible to hoppers and fairly resistant to winds.

VARIETY—*Black Alphonso* (Mangalore).

SYNONYM—*Kala Ishada*, *Kala Appus*.

Tree large, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Rainette Green* (L. 3, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Acajou Red (H. 10, Pl. 4), *sparsely puberulent*, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large*, *ovate roundish*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; *sinus slight*; apex broadly rounded; skin thick, fairly rough, Yellow Ochre (L. 7, Pl. 11); dots small and distant; flesh firm, *fibresless*, Primuline Yellow (L. 6, Pl. 10); flavour delightful; *taste very sweet*, juice fairly abundant.

Stone oval, covered with dense, short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality *very good*; bearing medium; mid-season. Resistant to winds and fairly resistant to hoppers. Keeping quality medium.

VARIETY—*Ameergola* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Scarlet Red* (L. 2, Pl. 3), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), *turning Cosse Green* (L. 2, Pl. 21).

Inflorescence *medium*, Yellow Green (L. 3, Pl. 19), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit small to *medium*, *peento*; base flattened; stalk inserted squarely; *cavity shallow*; *ventral shoulder smaller than and level with dorsal*, ventral shoulder rounded, *dorsal shoulder broader and rounded*; *sinus absent*; apex broadly rounded; skin medium thick, Light Cadmium (L. 6, Pl. 9); dots small and close; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant; taste moderately sweet; juice scant.

Stone round, covered with short, coarse fibre all over and medium on the ventral edge; *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; resistant to winds and hoppers; keeping quality good.

VARIETY—Chittoor Puttu (Trichur).

SYNONYM—Nil.

Tree medium, top oval, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), immature growing leaves Lumier Green (L. 1, Pl. 12), turning Lime Green (K. 1, Pl. 12).

Inflorescence medium, Lime Green (K. 1, Pl. 12), sparsely puberulent, *style equal and oblique to stamens*, staminodes well developed.

Fruit small, *ovate roundish*; base slightly flattened, stalk inserted squarely; *cavity slight*; shoulders equal and level, both rounded; beak a point; apex rounded; sinus absent; skin smooth, leathery, Yellow Ochre (L. 7, Pl. 11) when ripe; dots small, moderately distant; flesh firm, Light Cadmium (L. 6, Pl. 9), very slightly fibrous close to the stone; flavour mildly pleasant; taste moderately sweet; juice moderately abundant.

Stone roundish oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium and late; resistant to hoppers and is badly affected by winds. Keeping quality medium.

COHORT I—CLASS II.

Fruits roundish with beak missing or only a point. Leaves with acute tip and slightly or strongly folded.

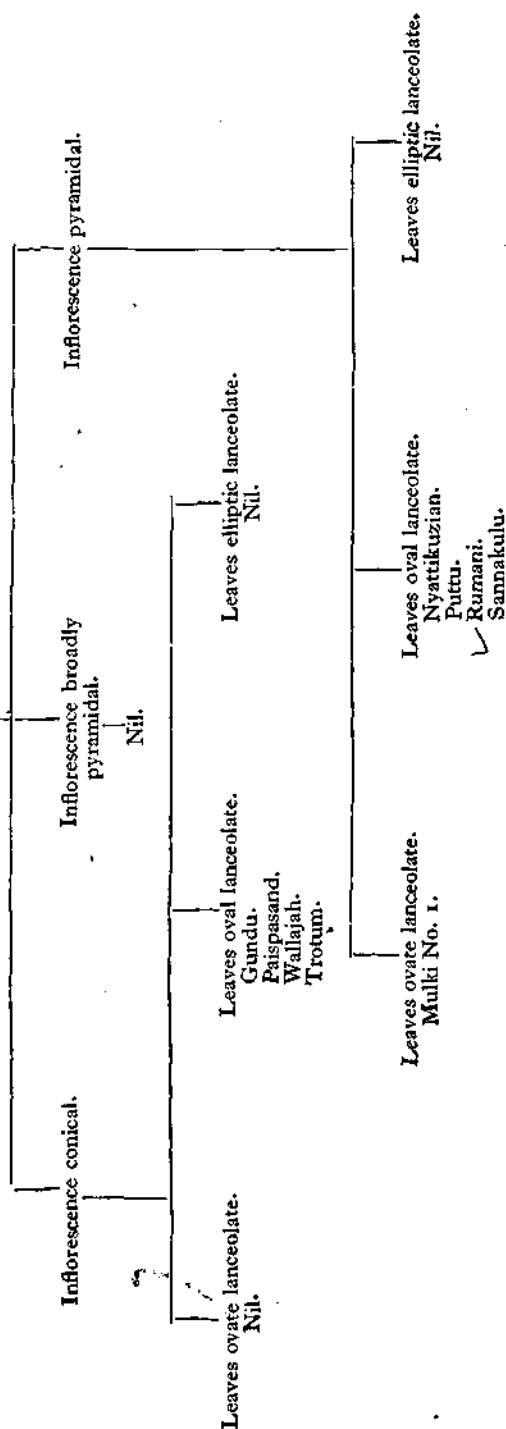
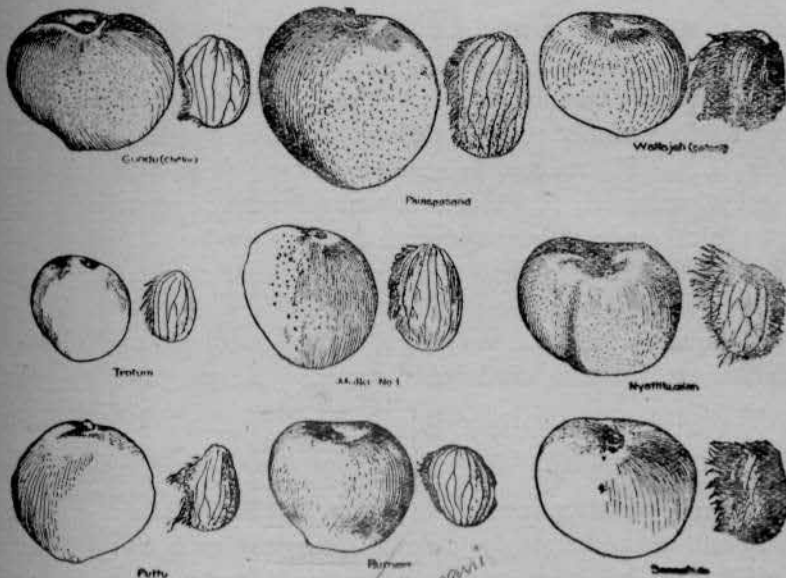


PLATE XIII.

COHORT I—CLASS II.

Fruits roundish with a point to missing beak. Leaves with acute tip and slightly or strongly folded.



COHORT I—CLASS II.

Fruits roundish with a beak missing or only a point. Leaves with acute tip and slightly or strongly folded.

VARIETY—*Gundu* (Chittoor).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves and immature growing leaves* Cosse Green (L. 2, Pl. 20), turning *Lettuce Green* (L. 4, Pl. 20).

Inflorescence medium, coloured *Prouts Brown* (J. 8, Pl. 15), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium; *roundish*; base flattened; stalk inserted squarely; *cavity deep*; shoulders equal and level, ventral and dorsal shoulders broadly rounded; beak absent; *sinus shallow*; apex broadly rounded; skin medium thick, fairly rough, *Apricot Yellow* (L. 4, Pl. 10); dots medium, close; flesh firm, *fibreless*, *Light Cadmium* (K. 6, Pl. 9); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium to poor; bearing medium, mid-season; moderately resistant to winds and hoppers. Keeping quality good.

VARIETY—*Paispasand* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and strongly folded. *Emerging leaves* *Snuff Brown* (L. 9, Pl. 11), *immature growing leaves* *Liver Brown* (L. 1, Pl. 15), turning *Kaiser Brown* (J. 8, Pl. 7).

Inflorescence small, *Brick Red* (J. 8, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, *roundish*; base slightly flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level, ventral and dorsal shoulders rounded; *beak and sinus absent*; apex rounded; skin medium thick, smooth, *Cadmium Yellow* (L. 7, Pl. 9); dots small, distant; flesh firm, *fibreless*, *Light Cadmium* (L. 6, Pl. 9); flavour pleasant; *taste sweet to very sweet*; juice moderately abundant.

Stone oval, covered with short, soft fibre all over; *veins parallel to forked and slightly raised*.

Fruit quality good ; bearing medium to poor, mid-season ; susceptible to hoppers and moderately resistant to winds ; keeping quality good.

VARIETY—*Wallajah* (Salem).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, *Viridine Green* (K. 2, Pl. 19), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit medium, *roundish* ; base flattened, stalk inserted squarely ; cavity shallow ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded to broadly rounded ; beak absent ; *sinus slight* ; apex broadly rounded ; skin medium thick, *Light Cadmium* (L. 6, Pl. 9) ; dots medium and moderately distant ; flesh firm and fibreless, *Deep Chrome* (L. 7, Pl. 10) ; flavour pleasant ; taste moderately sweet ; juice fairly abundant.

Stone roundish oval, covered with dense, short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately susceptible to winds and hoppers ; keeping quality good.

VARIETY—*Trotum* (Chittoor).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves out-held, slightly reflexed and folded. *Emerging leaves and immature growing leaves Lime Green* (K. 1, Pl. 12).

Inflorescence small, *Tawny* (A. 10, Pl. 13), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruits *small, roundish oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and higher than dorsal ; ventral shoulder rising and then rounded, dorsal shoulder rounded to ending in a moderate curve ; beak a point ; *sinus absent* ; apex rounded ; skin medium thick, *Light Cadmium* (L. 6, Pl. 9) ; dots small, distant ; flesh firm, *fibreless*, *Primuline Yellow* (L. 5, Pl. 9) ; flavour pleasant ; taste moderately sweet, juice moderately abundant.

Stone oblong oval, covered with sparse, short, soft fibre all over and medium on the ventral edge; *veins forked and slightly depressed*.

Fruit quality medium, bearing medium; mid-season; fairly resistant to hopper attack and winds; keeping quality medium.

VARIETY—*Moolki No. 1 (Kaup)*.

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Oil Green (L. 4, Pl. 22), immature growing leaves Cerro Green (L. 5, Pl. 22), turning Oil Green (L. 4, Pl. 3)*.

Inflorescence medium, Cosse Green (K. 2, Pl. 20), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate roundish*; base slightly obliquely flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and slightly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point to missing; *sinus absent*; apex rounded; skin medium thick, Deep Chrome (L. 7, Pl. 10); dots small, close; flesh firm, *fibreless*, Cadmium Orange (L. 10, Pl. 10); flavour delightful; taste very sweet; juice fairly abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on ventral edge; *veins forked and slightly raised*.

Fruit quality very good; bearing poor, mid-season; fairly susceptible to hoppers and resistant to wind; keeping quality good.

VARIETY—*Nyattikuzian (Trichur)*.

SYNONYM—Nil.

Tree large, top oval, shoots medium thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Grape Green (L. 2, Pl. 14), immature growing leaves Deep Chrysolite Green (L. 2, Pl. 13), turning Lime Green (L. 2, Pl. 12)*.

Inflorescence medium, Russet Vinaceous (E. 10, Pl. 5), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *medium, roundish*; base flattened; stalk inserted squarely; *cavity deep*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded; beak absent; *sinus slight*; apex flattened; skin medium thick, Wax Yellow (L. 5, Pl. 11); dots small, close; flesh soft, *fibreless*, Yellow Ochre (L. 7, Pl. 11); flavour acid; taste sour; juice moderately abundant.

Stone roundish oval, covered with short, soft fibre all over and medium on the ventral edge ; *veins forked and slightly raised*.

Fruit quality poor ; bearing medium, mid-season ; fairly resistant to winds and hoppers ; keeping quality fair.

VARIETY—*Puttu* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Saccardo's Umber* (L. 9, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Absinthe Green (L. 1, Pl. 13), moderately puberulent, *stamens parallel to and shorter than pistil*, staminodes poorly developed.

Fruit *medium, roundish* ; base rounded and *slightly extended* ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; *beak and sinus absent* ; apex rounded ; skin medium thick, Olive (L. 4, Pl. 14) ; dots medium, moderately distant ; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9), flavour mildly pleasant ; *taste fairly sweet* ; juice moderately abundant.

Stone oblong oval ; covered with short, soft fibre all over and medium on ventral edge ; *veins forked and slightly raised*.

Fruit quality medium ; bearing poor and late in season ; resistant to wind but highly susceptible to hoppers. Keeping quality good to medium.

VARIETY—*Rumani* (Chittoor).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Hellebore Green* (L. 5, Pl. 15), *immature growing leaves Isabella Colour* (L. 6, Pl. 13).

Inflorescence medium, Indian Lake (L. 3, Pl. 6), sparsely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, roundish* ; base flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level, ventral and dorsal shoulders rounded ; *beak absent* ; *sinus shallow* ; apex broadly rounded ; *skin thin*, Primuline Yellow (L. 5, Pl. 9), *with a blush of Spectrum Red* (L. 4, Pl. 3) *on shoulders* ; dots medium, close ; flesh firm to meaty, *fibreless*, Primuline Yellow (L. 5, Pl. 10) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone roundish oval, covered with sparse, short, soft fibre all over ; *veins slightly forked and raised*.

Fruit quality medium to good. Bearing heavy, mid-to-late season, often bearing a sparse off-season crop. Keeping quality good.

VARIETY—*Sannakulu* (Alamanda).

SYNONYM—*Hamilton*.

Tree medium, top oval, shoots medium thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Pyrite Yellow* (L. 4, Pl. 13), *immature growing leaves Grape Green* (L. 2, Pl. 14), turning *Mignonette Green* (L. 1, Pl. 22).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, *rounded to peento* ; base flattened, stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded ; beak and *sinus absent* ; apex flattened ; skin medium thick, *Light Cadmium* (L. 6, Pl. 9) ; dots small, moderately distant ; flesh firm, fibreless, *Light Cadmium* (L. 6, Pl. 9), flavour pleasant, taste medium sweet ; juice fairly abundant.

Stone oval, covered with dense, short, soft fibre all over and medium on ventral edge, *veins forked and slightly raised*.

Fruit quality medium ; bearing heavy, mid-season ; moderately resistant to winds and hoppers ; keeping quality good to very good.

COHORT I—CLASS III

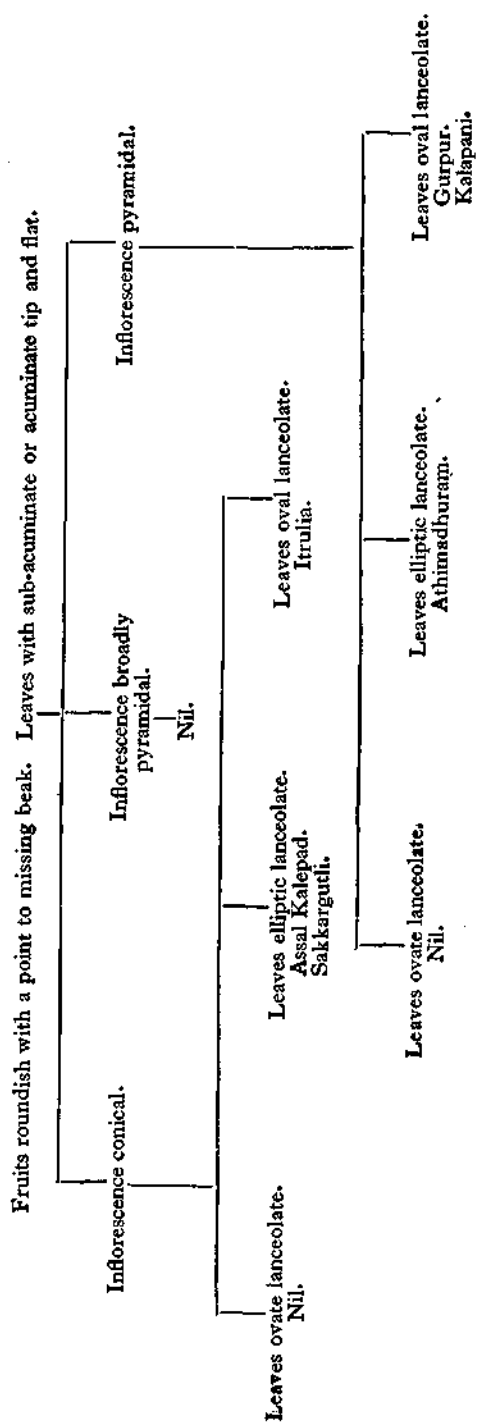
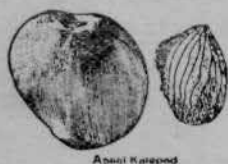


PLATE XIV.

COHORT I—CLASS III.

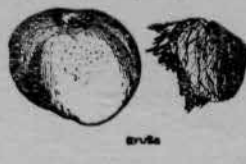
Fruits roundish with a point to missing beak. Leaves with sub-acuminate to acuminate tip and flat.



Abasi Kaland



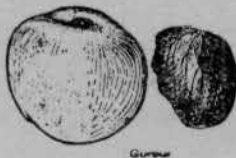
Sakhanguli (Mangra)



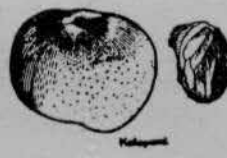
Bula



Almadhuram



Gumpur



Kalyani

COHORT I—CLASS III.

Fruits roundish with a missing or a point beak. Leaves with acuminate or sub-acuminate tip and flat.

VARIETY—*Assal Kalepad* (Siruvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves upheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Hellebore Green* (L. 4, Pl. 15), *turning Light Viridine Yellow* (L. 1, Pl. 11).

Inflorescence small, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit small, ovate roundish; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; apex rounded, skin medium thick, Primuline Yellow (L. 6, Pl. 10); dots small, close; flesh meaty, *fibreless*, Apricot Yellow (J. 5, PL. 10); flavour pleasant but slightly turpentine; taste moderately sweet; juice moderately abundant.

Stone oblong oval; covered with short, coarse fibre all over; *veins forked and slightly depressed*.

Fruit quality poor; bearing medium and mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Sakkargutli* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Mignonette Green* (L. 1, PL. 22), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Ecru Green* (L. 5, PL. 14).

Inflorescence medium, Mineral Green (L. 3, PL. 20), *moderately puberulent*, *pistil equal and parallel to stamens*, staminodes poorly developed.

Fruit medium, roundish; base flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level and both rounded; beak a point to missing; apex rounded; *sinus absent*; skin smooth, medium thick, leathery, Primuline Yellow (L. 6, PL. 10); dots small and close; flesh soft, Deep Chrome (L. 7, PL. 10); *fibrous close to the stone*; flavour pleasant; taste sweet; moderately juicy.

Stone oval; covered all over with short, soft fibre; *veins forked and slightly raised*.

Fruit quality medium to good ; bearing medium, mid-season ; fairly susceptible to diseases and heavy winds. Keeping quality medium.

VARIETY—*Itrulia* (Mangalore).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Ecrú Green* (L. 5, PL. 14), *immature growing leaves Mignonette Green* (L. 1, PL. 14), *turning Absinthe Green* (L. 1, PL. 13).

Inflorescence small, *Mignonette Green* (L. 1, PL. 14), *sparsely puberulent*, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruits small, *ovate roundish* ; base flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak a point ; *sinus absent* ; apex rounded ; skin thin, membranous, *Primuline Yellow* (L. 6, PL. 10) ; dots small and close ; flesh buttery, *Orange* (L. 9, PL. 9) ; *moderately fibrous*, *fibres medium*, *soft* ; flavour mildly pleasant ; taste moderately sweet ; fairly juicy.

Stone oval ; covered with medium, soft fibre all over and medium on the ventral edge ; *veins forked and slightly depressed*.

Fruit quality poor to medium ; bearing heavy in clusters, mid-season ; fairly susceptible to hoppers and resistant to wind.

VARIETY—*Athimadhuram* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Cadmium Orange* (L. 10, PL. 10), *immature growing leaves Vandyke Red* (J. 2, PL. 7), *turning Buffy Citrine* (L. 1, PL. 14).

Inflorescence *medium*, *Corinthian Red* (K. 2, PL. 5), *moderately puberulent*, *stamens smaller than and parallel to pistil*, staminodes poorly developed.

Fruit *medium*, *roundish* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak absent ; *sinus slight to shallow* ; apex rounded ; skin medium thick, *Primuline Yellow* (L. 6, PL. 10) ; dots small, close ; flesh firm, *Light Salmon Orange* (A. 5, PL. 10) ; *sparsely fibrous*, *fibres medium and soft* ; flavour pleasant ; taste very sweet ; moderately juicy.

Stone oval ; covered with short, soft fibre all over and medium on the ventral edge ; *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; fairly susceptible to hoppers and resistant to wind. Keeping quality good.

VARIETY—*Gurpur* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed, with acuminate tip. *Emerging leaves Mignonette Green* (L. 1, PL. 14), *immature growing leaves Rainette Green* (L. 3, PL. 14), *turning Ecrú Olive* (L. 4, PL. 14).

Inflorescence medium, Martin Yellow (J. 1, Pl. 11), *moderately puberulent, stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, roundish*; base flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak a point; *sinus absent*; apex rounded; skin medium thick, Primuline Yellow (L. 5, PL. 10); dots medium, distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, PL. 9); flavour mildly pleasant; taste medium sweet; moderately juicy.

Stone oval; covered with short, soft fibre all over, veins forked and slightly raised.

Fruit quality medium; bearing medium; mid-season; fairly susceptible to hoppers and winds, keeping quality fair to medium.

VARIETY—*Kalapani* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Deep Chrysolite Green* (L. 1, PL. 21), *immature growing leaves Rainette Green* (L. 3, PL. 14), *turning Ecrú Olive* (L. 4, PL. 14).

Inflorescence medium, Cosse Green (L. 2, PL. 20), *moderately puberulent, pistil longer than and oblique to stamens*, staminodes well developed.

Fruit medium, *ovate roundish to peento*; base flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level and rounded; beak a point to missing; apex rounded; *sinus slight*; skin thick, smooth, Cadmium Yellow (L. 7, PL. 9) when ripe; dots small and distant; flesh firm to crisp, *fibreless*, Capucine Yellow (L. 8, PL. 9); flavour aromatic, taste moderately sweet and juice moderately abundant.

Stone oblong oval; covered with short, soft fibre all over, veins forked, *slightly to prominently raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to hoppers and resistant to wind. ~~Keeping quality good.~~

COHORT I—CLASS IV.

Fruits roundish with missing to a point beak. Leaves with acuminate to sub-acuminate tip and slightly or strongly folded.

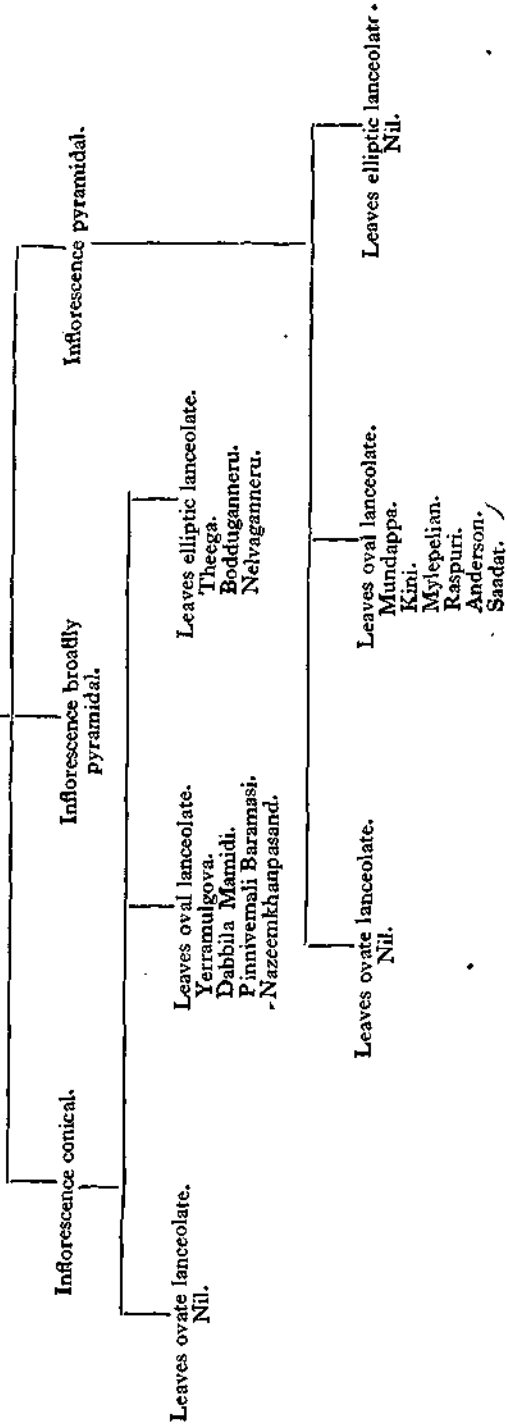
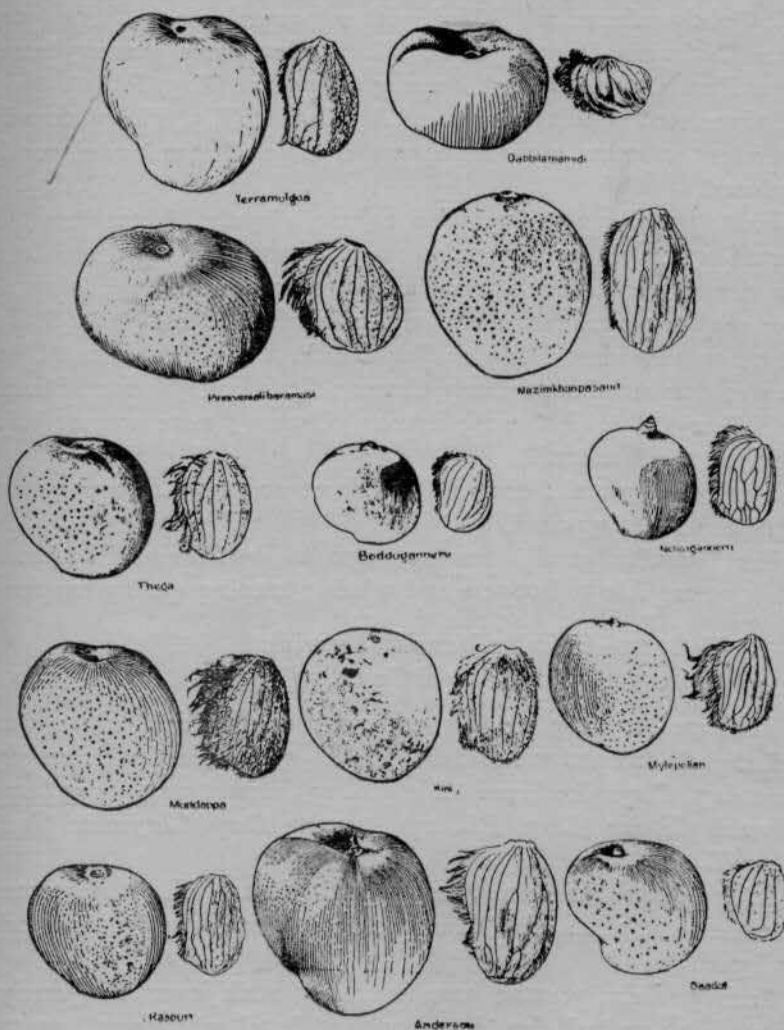


PLATE XV.

COHORT I—CLASS IV.

Fruits roundish with missing to a point beak. Leaves with sub-acuminate to acuminate tip, slightly or strongly folded.



COHORT I—CLASS IV.

Fruits roundish with a missing or a point beak. Leaves with acuminate or sub-acuminate tip and slightly or strongly folded.

VARIETY—Yerramulgoa (Kodur).
SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Cadmium Orange* (L. 9, PL. 8), *immature growing leaves Claret Brown* (L. 10, PL. 7), turning *Ochre Red* (K. 9, PL. 6).

Inflorescence medium, coloured *Acajou Red* (J. 9, PL. 7), densely puberulent, stamens equal and parallel to pistil, staminodes poorly developed.

Fruit large, ovate roundish : base slightly flattened ; stalk inserted squarely ; cavity shallow ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak absent ; sinus shallow : apex rounded ; with a blush of *Coral Red* (G. 11, PL. 3) on shoulders ; skin medium thick, *Light Cadmium* (L. 6, PL. 9) ; dots small, moderately distant ; flesh soft, fibreless, *Primuline Yellow* (L. 6, PL. 10) ; flavour pleasant ; taste sweet ; juice moderate to abundant.

Stone oblong oval ; covered with short, soft fibre all over ; veins forked and slightly raised.

Fruit quality good ; bearing poor to medium, mid-season ; highly susceptible to hoppers and winds ; keeping quality medium.

VARIETY—Dabbilla Mamidi (Nuzvid).

SYNONYM—Uwva, Assal Uwva.

Tree medium, top rounded, shoots medium thick, leaves out-held, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves deep, Chrysolite Green* (L. 2, PL. 13), *immature growing leaves Yellowish Citrine* (L. 3, PL. 13), turning *Deep Chrysolite Green* (L. 2, PL. 13).

Inflorescence medium, Testaceous (F. 10, PL. 4), sparsely puberulent, stamens equal and parallel to pistil, staminodes poorly developed.

Fruit medium, peento ; base flattened ; stalk inserted squarely : cavity deep : ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded ; beak and sinus absent ; apex flattened ; skin medium thick, *Deep Chrome* (L. 7, PL. 10) ; dots medium, moderately distant ; flesh firm, fibreless, *Capucine Yellow* (L. 8, PL. 9), flavour pleasant ; taste moderately sweet ; juice scanty.

Stone small, roundish, covered with short, soft hair all over ; *veins forked and slightly to prominently raised.*

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to hopper attack and winds ; keeping quality good. —

VARIETY—*Pinivemali Baramasi* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Ecrú Olive* (L. 5, PL. 14), *immature growing leaves Orange Citrine* (L. 7, PL. 15), *turning Hellebore Green* (L. 5, PL. 15).

Inflorescence medium, Citron Green (K. 1, PL. 20), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit medium to large, *peento* ; base flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder level and shorter than dorsal, ventral shoulder rounded, dorsal shoulder broadly rounded ; beak a point ; *sinus absent* ; apex flattened ; skin thin, membranous, Primuline Yellow (L. 5, PL. 9) ; dots small, moderately distant ; flesh firm to meaty, *fibreless*, *Apricot Yellow* (K. 4, PL. 9) ; flavour moderately pleasant ; taste medium sweet, juice scanty to fairly abundant.

Stone roundish oval ; covered with short, soft fibre all over and medium on the ventral edge ; veins parallel and *slightly to prominently raised.*

Fruit quality medium to poor ; bearing medium, mid-and-off-season ; moderately susceptible to winds and hoppers ; keeping quality good.

VARIETY—*Nazeempasand* (Alamanda).

SYNONYM—*Nazeemkhanpasand*.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed and folded with sub-acuminate tip. *Emerging and immature growing leaves Mignonette Green* (L. 1, PL. 14).

Inflorescence large, Geranium Pink (H. 9, PL. 3), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit medium to large, *roundish* ; base rounded and extended ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak a point ; *sinus absent* ; apex rounded ; skin medium thick, Mustard Yellow (L. 3, PL. 9) ; dots small, moderately distant ; flesh firm,

fibreless, Maize Yellow (J. 2, PL. 9) ; flavour delightful ; taste very sweet ; moderately juicy.

Stone oblong oval ; covered with dense, short, soft fibre all over ; *veins slightly forked and slightly to prominently raised*.

Fruit quality very good ; bearing medium to poor, late season ; susceptible to hoppers and resistant to wind. Keeping quality good.

VARIETY—*Theega* (Mangalore).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded with sub-acuminate tip. *Emerging leaves Deep Chrysolite Green* (L. 3, PL. 12), *immature growing leaves Ecu Olive* (L. 4, PL. 14) *turning Lime Green* (K. 1, PL. 12).

Inflorescence small, Courge Green (L. 1, PL. 12), *moderately puberulent, stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruits small to medium, roundish ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak absent ; *sinus slight* ; apex rounded ; skin medium thick, Primuline Yellow (L. 6, PL. 10) ; dots small, moderately distant ; *flesh firm, fibreless*, coloured Capucine Yellow (L. 8, PL. 9) ; flavour aromatic ; taste medium sweet ; fairly juicy.

Stone oval ; covered with short, soft fibre all over. *Veins forked and slightly depressed*.

Fruit quality and bearing medium ; mid-season ; moderately susceptible to hoppers and winds ; keeping quality good.

VARIETY—*Bodduganneru* (Alamanda).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 7, PL. 15), *immature growing leaves Medal Bronze* (L. 8, PL. 15), turning Mineral Green (L. 3, PL. 20).

Inflorescence small, Viridine Green (K. 2, PL. 19), sparsely puberulent, *pistil and stamens equal and parallel*, staminodes well developed.

Fruit small, *roundish* ; base rounded and extended ; stalk inserted squarely, *cavity absent* ; shoulders equal, level and rounded ; beak missing ; *sinus slight* ; apex rounded ; skin smooth, membranous, Primuline Yellow (L. 6, PL. 10) when ripe ; dots small and close ; flesh soft, coloured *Light Cadmium* (L. 6, PL. 9) ; *fibreless* ; mildly pleasant, moderately sweet ; juice scanty.

Stone oval ; covered with short, sparse, soft fibre all over ; *veins parallel and slightly depressed*.

Fruit quality poor ; bearing medium, mid-season ; resistant to winds and hoppers ; keeping quality good. —

VARIETY—*Nelvaganneru* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium. Leaves outheld, slightly reflexed and folded and with sub-acuminate tip. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13) ; *immature growing leaves Mignonette Green* (L. 1, Pl. 22), turning *Yellow Green* (L. 1, Pl. 19).

Inflorescence small, Scarlet Red (L. 9, Pl. 3), sparsely puberulent, stamens equal and parallel to pistil ; staminodes well developed.

Fruit small, roundish ; base slightly flattened and extended ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, ventral and dorsal shoulders rounded ; beak absent ; *sinus shallow* ; apex rounded ; skin medium thick, Primuline Yellow (G. 5, Pl. 9) ; dots small and close ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oval ; covered with short, soft fibre all over ; *veins forked and slightly raised*.

Fruit quality medium, mid-season ; resistant to winds and hoppers ; keeping quality good.

VARIETY—*Mundappa* (Mangalore).

SYNONYM—Nil.

Tree large, top rounded, shoots thick. Leaves outheld, slightly reflexed, folded and twisted with sub-acuminate to acuminate tip. *Emerging leaves Ecu Green* (L. 5, Pl. 14), *immature growing leaves Dark Citrine* (L. 6, Pl. 15), turning *Ecu Green* (L. 5, Pl. 14).

Inflorescence large, Cacao Brown (B. 10, Pl. 5), moderately puberulent, *stamens shorter than and parallel to pistil* ; staminodes poorly developed.

Fruit *medium to large, roundish* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak and sinus *absent* ; apex rounded ; skin thin, Deep Chrome (L. 7, Pl. 10) ; dots medium, moderately distant ; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour delightful, taste sweet, juice moderate to abundant.

Stone oblong oval ; covered with dense, short, coarse fibre all over and medium on ventral edge ; *veins forked and slightly raised*.

Fruit quality good ; bearing heavy, mid-to-late season ; resistant to winds and hoppers ; keeping quality good.

VARIETY—*Kini* (Uchila).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Acajou Red* (L. 7, Pl. 6), *turning Light Seal Brown* (L. 8, Pl. 8).

Inflorescence medium, Coral Pink (F. 8, Pl. 8), moderately puberulent, *stamens equal and parallel to pistil* ; staminodes poorly developed.

Fruit medium to large, *roundish* ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak and *sinus absent* ; apex rounded ; skin medium thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, close ; flesh soft ; *fibreless* ; Capucine Yellow (L. 8, Pl. 9) ; flavour pleasant ; taste medium sweet ; moderately juicy.

Stone oval, covered with dense, short to medium, soft fibre all over ; *veins parallel and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to hoppers and winds. Keeping quality medium.

VARIETY—*Mylepelian* (Chowghat).

SYNONYM—Nil.

Tree large, top oval, shoots medium thick. Leaves outheld, slightly reflexed and folded with sub-acuminate tip. *Emerging leaves, Hellebore Green* (L. 3, Pl. 15), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning to Isabella Colour* (L. 7, Pl. 14).

Inflorescence medium ; Scarlet Red (K. 11, Pl. 3) ; densely puberulent ; *stamens equal and parallel to pistil* ; staminodes well developed.

Fruit small, *ovate roundish* ; base slightly flattened ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus absent* ; apex rounded ; skin medium thick, Capucine Yellow (L. 8, Pl. 10) ; dots large, moderately distant ; flesh soft, Light Cadmium (L. 6, Pl. 9), *fibrous*, *fibres medium, coarse* ; flavour mildly pleasant ; taste moderately sweet ; moderately juicy.

Stone oblong oval ; covered with medium, coarse fibre all over ; *veins parallel to forked and slightly depressed*.

Fruit quality medium ; bearing heavy ; early ; fairly resistant to hoppers and winds ; keeping quality medium to poor.

VARIETY—*Raspuri* (Mangalore).

SYNONYM—Nil.

Tree medium, top dome-shaped, shoot thick. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Coral Pink (E. 9, Pl. 3), densely puberulent, stamens equal and parallel to pistil, staminodes well developed.

Fruit medium, *roundish* ; base flattened ; stalk inserted squarely ; *cavity slight* ; shoulders equal and level, ventral and dorsal shoulders rounded ; beak a point ; *sinus none* ; apex rounded ; skin medium thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, close ; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 10) ; flavour pleasant ; taste moderately sweet ; moderately juicy.

Stone oblong oval ; covered with short, soft fibre all over ; *veins forked and slightly raised*.

Fruit quality medium, bearing medium, mid-season ; fairly susceptible to winds and hoppers. Keeping quality medium.

VARIETY—*Anderson* (Alamanda).

SYNONYM—*Assal Andrews*.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed, folded and wavy, with sub-acuminate tip. *Emerging leaves Isabella Colour* (L. 7, Pl. 14) ; *immature growing leaves Saccardos Umber* (L. 9, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Ecu Olive (L. 4, Pl. 14), densely puberulent, stamens shorter than and parallel to pistil, staminodes well-developed.

Fruit large, *roundish oblique* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder slightly higher than dorsal, ventral and dorsal shoulders rounded ; beak absent ; *sinus slight* ; apex rounded ; skin thick, tough and smooth, Primuline Yellow (L. 6, Pl. 10) ; dots medium, moderately distant ; flesh firm, *fibreless*, Pinnard Yellow (L. 4, Pl. 10) ; flavour delightful, taste sweet ; juice moderate to abundant.

Stone oblong oval, covered with short, coarse fibre all over, *veins parallel and slightly raised*.

Fruit quality good ; bearing poor and late season ; fairly susceptible to winds and hoppers ; keeping quality good.

VARIETY—*Sadaat* (Chittoor).

SYNONYM—Nil.

Tree medium, top oval, shoots medium thick. Leaves outheld, slightly reflexed and folded with sub-acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Ecu Olive* (L. 5, Pl. 14), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Isabella colour (L. 7, Pl. 14), sparsely puberulent, stamens parallel to and longer than pistil; staminodes well developed.

Fruit *small to medium, roundish*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder smaller and level with dorsal, ventral and dorsal shoulders rounded; beak absent; *sinus shallow*; apex rounded; skin thick, Cadmium Yellow (L. 7, Pl. 9); dots small, close; flesh firm to hard, fibreless, Primuline Yellow (L. 5, Pl. 9); flavour pleasant; taste medium sweet; juice scanty.

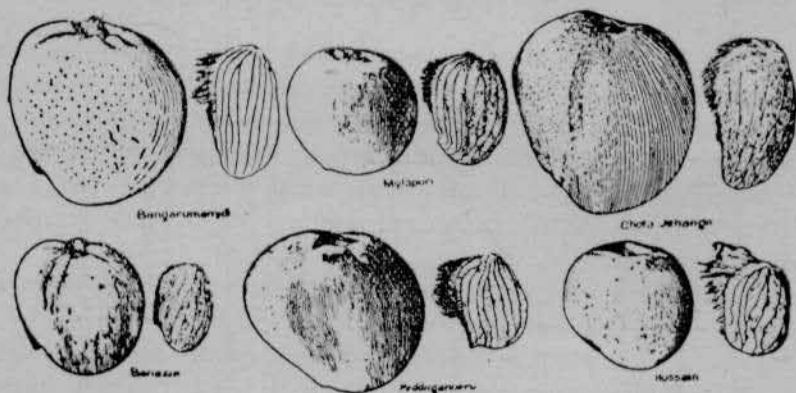
Stone oval, covered with short, soft fibre all over; *veins parallel slightly to prominently raised*.

Fruit quality medium, bearing medium, mid-season; fairly resistant to hoppers and to winds. Keeping quality good.

PLATE XVI.

COHORT II—CLASS I.

Fruits roundish with a distinct to a prominent beak. Leaves with acute tip and flat.



VIII VARIETY DESCRIPTIONS

COHORT II—CLASS I

Fruits roundish with a prominent to distinct beak. Leaves with acute tip and flat.

VARIETY—*Bangarumamidi* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Yellowish Citrine* (L. 3, Pl. 13), *turning Deep Chrysolite Green* (L. 2, Pl. 13).

Inflorescence medium, coloured Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens and pistil equal and parallel*; staminodes poorly developed.

Fruit *medium to large, ovate roundish*; base slightly flattened and extended, stalk inserted squarely; *cavity shallow*; shoulders equal, level and rounded; beak slightly prominent; apex rounded; *sinus absent*; skin thick, smooth, tough, Primuline Yellow (L. 6, Pl. 10); dots medium, distant; flesh soft to buttery, *fibrelless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste moderately sweet; moderately juicy.

Stone oblong oval, covered with short, sparse fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to hoppers and resistant to wind; keeping quality medium.

VARIETY—*Chota Jehangir* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15); *turning Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Courge Green (H. 1, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*; staminodes poorly developed.

Fruit large, roundish oblique; base obliquely flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder slightly higher and equal to dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak slightly prominent,

sinus absent ; apex rounded ; skin medium thick, Primuline Yellow (L. 5, Pl. 9) ; dots medium, moderately distant ; flesh soft, *fibreless*, Naples Yellow (B. 2, Pl. 9) ; flavour delightful ; taste sweet ; juice moderate to abundant.

Stone oblong oval, covered with moderately abundant, short, soft fibre all over, *veins forked and grooved*.

Fruit quality good ; bearing medium to heavy, mid-season ; fairly susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Mylapuri* (Kadium).

SYNONYM—Nil.

Tree medium, top dome-shaped, shoots slender. Leaves out-held, slightly reflexed. *Emerging leaves Yellowish Oil Green* (K. 3, Pl. 14), *immature growing leaves Ecrú Olive* (L. 4, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Yellow Green (L. 4, Pl. 17), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *small, roundish* ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal ; ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) ; dots small, moderately distant ; flesh firm, fibreless, Primuline Yellow (L. 6, Pl. 10) ; flavour mildly pleasant ; taste moderately sweet ; juice fairly abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins slightly forked and depressed*.

Fruit quality medium, bearing two crops in mid-and off-season ; resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Benazir* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves out-held, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence small, Yellow Green (L. 3, Pl. 19), moderately puberulent, *stamens smaller than and parallel to pistil* ; staminodes poorly developed.

Fruit *small, ovate roundish* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak distinct to

slightly prominent; *sinus* absent; apex rounded; skin medium-thick, smooth, Primuline Yellow (L. 5, Pl. 9); dots medium, moderately distant; flesh soft, *fibreless*, Empire Yellow (J. 4, Pl. 10); flavour pleasant; taste sweet.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good, bearing medium, mid-season, fairly resistant to hoppers and winds, keeping quality medium.

VARIETY—*Peddaganneru* (Kadium).

SYNONYM—*Nil*.

Tree medium, top rounded, shoots slender, leaves outheld, slightly reflexed. *Emerging leaves Spectrum Red* (L. 4, Pl. 4); immature growing leaves *Rainette Green* (L. 3, Pl. 14), turning *Ecu Olive* (L. 4, Pl. 13).

Inflorescence medium, *Old Rose* (J. 1, Pl. 3), *moderately puberulent, stamens shorter and parallel to pistil*, staminodes well developed.

Fruit medium, *roundish ovate*; base slightly flattened and extended; stalk inserted squarely; *cavity shallow*; ventral shoulder broader than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, *Light Cadmium* (L. 6, Pl. 9); dots small, close; flesh firm, *fibreless*, *Light Cadmium* (L. 6, Pl. 9); flavour pleasant; taste moderately sweet; moderately juicy.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing heavy, mid-season; fairly resistant to hoppers and highly resistant to winds; keeping quality good.

VARIETY—*Hussain* (Mudabidri).

SYNONYM—*Nil*.

Tree medium, top oval, shoots medium thick. Leaves outheld, slightly reflexed and twisted. *Emerging leaves Isabella Color* (L. 7, Pl. 14), immature growing leaves *Medal Bronze* (L. 8, Pl. 15), turning *Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, *Spectrum Red* (L. 10, Pl. 4), *moderately puberulent, stamens equal and parallel to pistil*, staminodes well developed.

Fruit *small, roundish*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with the

dorsal, ventral and dorsal shoulders rounded ; beak distinct ; apex rounded ; skin medium thick, Primuline Yellow (L. 5, Pl. 10) ; dots medium, moderately distant ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste medium sweet ; moderately juicy.

Stone oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and prominently raised*.

Fruit quality medium, bearing medium, late season ; moderately resistant to winds and hopper attack ; keeping quality good.

COHORT II—CLASS II.

Fruits roundish with a distinct or prominent beak. Leaves with acute tip, slightly or strongly folded.

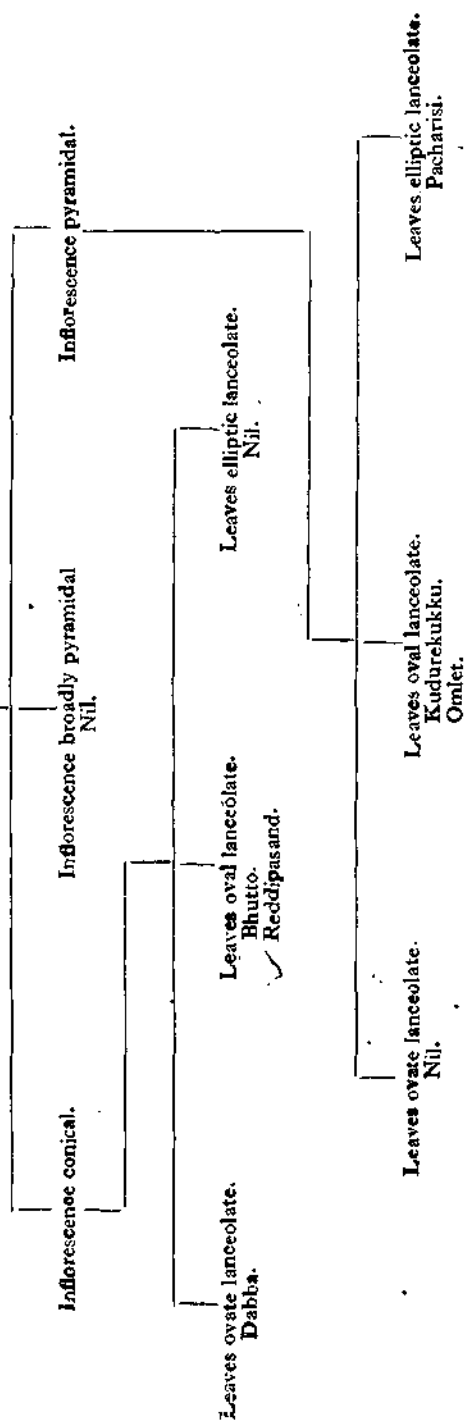
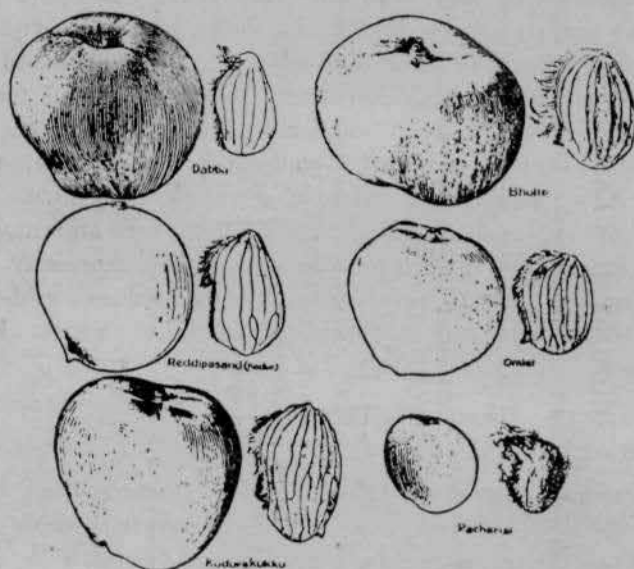


PLATE XVII.

COHORT II—CLASS II.

Fruits roundish with a distinct or prominent beak. Leaves with acute tip and slightly or strongly folded.



COHORT II—CLASS II

Fruits roundish with a distinct or prominent beak. Leaves with acute tip and slightly or strongly folded.

VARIETY—*Dabba* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Ecrú Green*. (L. 5, Pl. 14), *immature growing leaves Orange Citrine* (L. 71, Pl. 5). Inflorescence medium, Rose Red (L. 4, Pl. 4), moderately puberulent, *stamens larger than and parallel to pistil*, staminodes poorly developed.

Fruit *medium to large, roundish*; base slightly flattened; stalk inserted squarely; *cavity shallow to deep*; shoulders equal, level and rounded; beak broadly mammiform; apex flattened; *sinus slight to absent*; skin medium-thick, rough to warty, tenacious, Cerro Green (L. 3, Pl. 23); dots small, moderately distant; flesh soft, Capucine Buff (B. 5, Pl. 10); *moderately fibrous, fibre medium and soft*; flavour unpleasant; taste sour; moderately juicy.

Stone oblong oval; covered with medium, soft and moderately abundant fibre all over, *veins parallel and slightly depressed*.

Fruit quality poor to very poor; bearing medium, mid-season; resistant to hoppers and moderately resistant to winds. Keeping quality poor.

VARIETY—*Bhutto* (Kasimkota).

SYNONYM—Nil.

Tree medium, top dome-shaped, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Empire Green* (J. 6, Pl. 16), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, peento to ovate roundish*; base flattened and extended; stalk inserted squarely; *cavity deep*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded; beak prominent; *sinus absent*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, moderately distant; flesh firm, *fibreless*, coloured Lemon Chrome (L. 4, Pl. 9); flavour delightful; taste sweet, moderately juicy.

Stone oval, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and prominently raised*.

Fruit quality good ; bearing medium, mid-season ; fairly resistant to winds and hoppers ; keeping quality good.

VARIETY—*Reddipasand* (Kodur).

SYNONYM—*Sajeda*.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 2, Pl. 21); *immature growing leaves Oil Green* (L. 2, Pl. 22), *turning Lever Brown* (L. 1, Pl. 15).

Inflorescence medium, coloured Rose Red (L. 4, Pl. 4), sparsely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit medium, roundish ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral and dorsal shoulders equal, level and rounded ; beak distinct or slightly prominent, *sinus absent* ; apex rounded ; skin medium-thick, Apricot Yellow (K. 5, Pl. 9) ; dots medium-close ; flesh firm, *fibreless* ; Baryta Yellow (E. 2, Pl. 10) ; flavour pleasant ; taste medium sweet.

Stone oblong oval ; covered with short, soft fibre all over ; *veins forked and slightly raised*.

Fruit quality medium ; bearing medium to heavy, mid-season ; moderately susceptible to winds and hoppers ; keeping quality fair.

VARIETY—*Kudurekukku* (Mudabidri).

SYNONYM—Nil.

Tree medium, top dome-shaped, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Isabella Color* (L. 7, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Pinard Yellow (L. 2, Pl. 11), moderately puberulent, *stamens longer than and oblique to pistil*, staminodes well developed.

Fruit large, ovate roundish ; base flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak prominent, *sinus absent* ; apex rounded ; skin thick, Primuline Yellow (L. 5, Pl. 9) ; dots large, close ; flesh firm, *fibreless*, Deep Chrome (L. 7, Pl. 10) ; flavour pleasant ; taste sweet, juice fairly abundant.

Stone oblong oval ; covered with short, soft fibre all over ; *veins forked and slightly depressed*.

Fruit quality medium to good ; bearing shy, mid-season ; fairly susceptible to hoppers and winds. Keeping quality good.

VARIETY—*Omlet* (Mangalore).

SYNONYM—*Nil*.

Tree large, top oval, shoots thick. Leaves outheld, moderately to strongly reflexed, and slightly folded. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Mignonette Green* (L. 1, Pl. 22), *turning Pale Lemon Yellow* (L. 1, Pl. 10).

Inflorescence medium, Pomegranate Purple (K. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, roundish; base flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level, ventral and dorsal shoulders rounded, beak distinct; *sinus absent*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, Pl. 9), with a blush of Coral Red (H. 10, Pl. 3) on shoulders; dots small and close; flesh firm, Cadmium Orange (L. 10, Pl. 9), *slightly fibrous, fibre sparse*, medium, and coarse; flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oval; covered with short, tender fibre all over and medium on the ventral edge; *veins parallel and slightly raised*.

Fruit quality medium, bearing medium, mid-season; fairly resistant to winds and hoppers. Keeping quality fair.

VARIETY—*Pacharisi* (Trichur).

SYNONYM—*Nil*.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded. *Emerging leaves Medal Bronze*, (L. 8, Pl. 15), *growing immature leaves Rainette Green* (L. 3, Pl. 14), *turning Deep Chrysolite Green* (L. 1, Pl. 21).

Inflorescence medium, Venetian Pink (E. 1, Pl. 2), sparsely puberulent, *pistil longer than and parallel to stamens*, staminodes poorly developed.

Fruit small, roundish cordate; base rounded to slightly obliquely flattened; stalk inserted squarely; *cavity slight*; shoulders equal, and ventral slightly higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak distinct; apex broadly pointed; *sinus absent*; skin smooth, medium thick, leathery, Yellow Ochre (L. 7, Pl. 11); dots small, moderately distant; flesh soft, Light Cadmium (L. 6, Pl. 9); moderately *fibrous, fibre long and soft*; flavour delightful; taste sweet; juice moderately abundant.

Stone oval, covered with medium soft, abundant fibre all over, *veins forked and slightly raised*.

Quality good; bearing heavy and early. Fairly susceptible to hoppers and resistant to winds. Keeping quality medium.

COHORT II—CLASS III

Fruit roundish with distinct or prominent beak. Leaves with tip sub-acuminate or acuminate and flat.

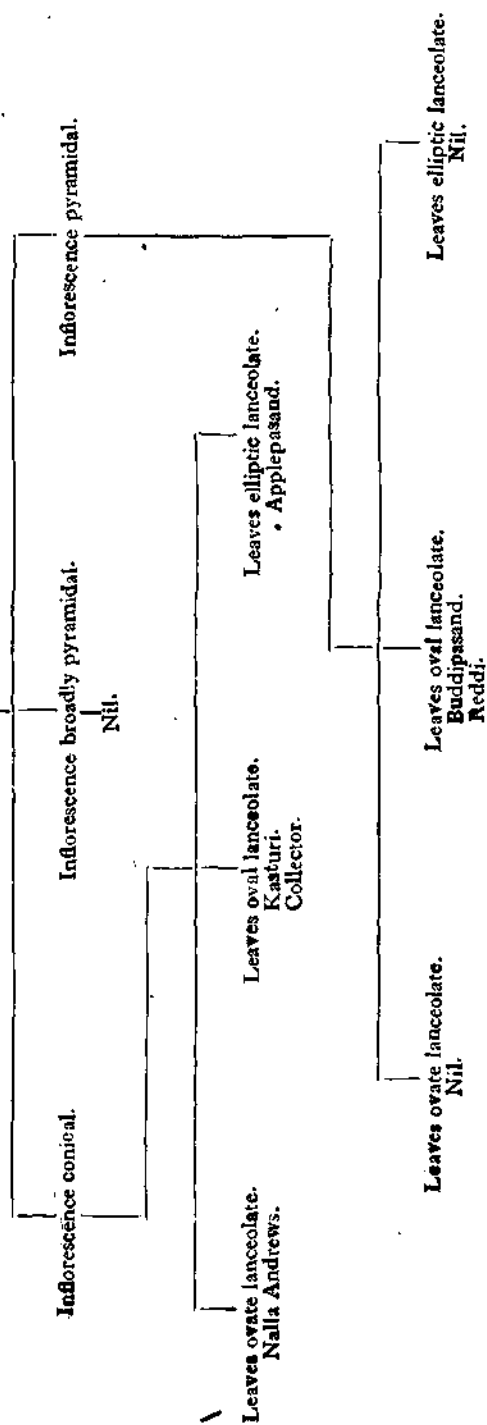
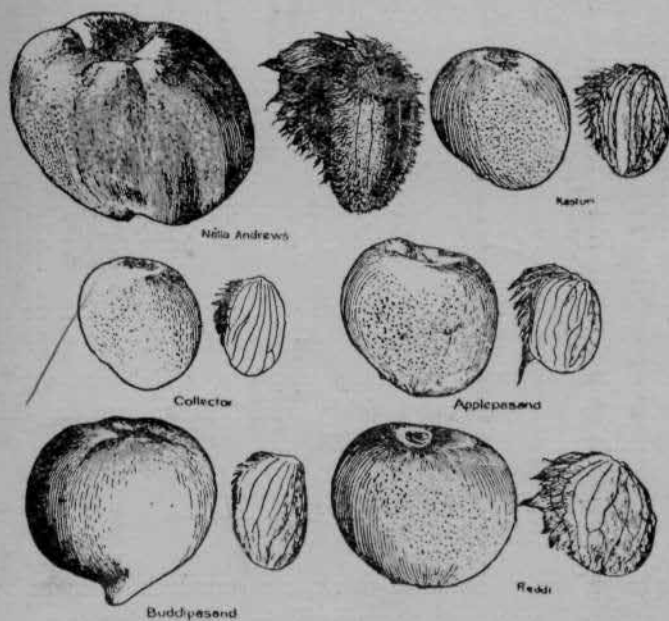


PLATE XVIII.

COHORT II—CLASS III.

Fruits roundish with a distinct to prominent beak. Leaves with tip sub-acuminate or acuminate and flat.



 COHORT II—CLASS III

Fruit roundish with distinct or prominent beak. Leaves with tip sub-acuminate and flat.

VARIETY—*Nalla Andrews* (Alamanda).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Shrimp Pink (A. 9, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, ovate roundish; base flattened; stalk inserted squarely; *cavity deep*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded; break prominent; *sinus absent*; apex rounded; skin medium-thick, rough, Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour delightful; taste very sweet; moderately juicy.

Stone oblong oval, covered with dense, short, soft fibre all over and medium on the ventral edge, *veins parallel and slightly raised*.

Fruit quality good; bearing medium, mid-season; highly susceptible to hoppers and fairly resistant to winds. Keeping quality medium.

VARIETY—*Kasturi* (Mangalore).

SYNONYM—Nil.

Tree large, shoots medium-thick, top rounded. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Medal Bronze* (L. 9, Pl. 14).

Inflorescence medium, Testaceous (B. 10, Pl. 4), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit small, ovate roundish; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; *beak distinct*; *sinus slight*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots large, close; flesh soft, Empire Yellow (J. 4, Pl. 10), moderately *fibrous*, fibre medium and soft; flavour pleasant; taste medium sweet; moderately juicy.

Stone oval to oblong oval ; with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium ; bearing medium, late ; fairly susceptible to hopper attack and winds. Keeping quality medium.

VARIETY—*Collector* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Ecrú Green* (L. 5, Pl. 14), *turning Isabella Colour* (K. 6, Pl. 23).

Inflorescence medium, Etruscan Red (J. 10, Pl. 5), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *small to medium*, cordate ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus absent* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10) ; dots medium and close ; flesh firm, Baryta Yellow (H. 2, Pl. 10) ; moderately *fibrous*, *fibre medium and coarse* ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oval, covered with medium fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Applepasand* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Cerro Green (L. 6, Pl. 22), moderately puberulent, *stamens longer than and parallel to pistil* ; staminodes well developed.

Fruit *medium, roundish* ; base flattened ; stalk inserted squarely ; *cavity shallow to deep* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded ; beak distinct ; skin medium-thick, Primuline Yellow (L. 5, Pl. 9) ; dots small, moderately distant ; flesh firm, coloured Primuline Yellow (L. 6, Pl. 10) ; *fibreless* ; flavour pleasant, taste medium sweet, juice moderately abundant.

Stone oval, covered with short, coarse fibre all over, *veins forked and prominently raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Buddipasand* (Kodur).

SYNONYM—Nil.

Tree small, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Yellowish Citrine* (L. 1. 13, Pl. 13).

Inflorescence medium, *Cosse Green* (L. 2, Pl. 20), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium to large, roundish*; base flattened; stalk inserted squarely; *cavity shallow to deep*, ventral shoulder equal and level, ventral and dorsal shoulders rounded; beak prominent, incurved; *sinus absent*; apex rounded; skin medium-thick, *Light Cadmium* (L. 6, Pl. 9); dots medium, moderately distant; flesh buttery; *fibreless*, coloured *Deep Chrome* (L. 7, Pl. 10); flavour mildly pleasant; taste moderately sweet; juice scant to fairly abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium, bearing medium and mid-season; fairly susceptible to winds and highly susceptible to hoppers. Keeping quality medium.

VARIETY—*Reddi* (Mangalore).

SYNONYM—Nil.

Tree medium to large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and wavy with sub-acuminate tip. *Emerging leaves Naples Yellow* (J. 4, Pl. 11), *immature growing leaves Naples Yellow* (J. 3, Pl. 11), *turning Mustard Yellow* (J. 2, Pl. 12).

Inflorescence medium, *Lime Green* (K. 1, Pl. 12), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *medium, peento to roundish*; base flattened and slightly extended; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak distinct; *sinus absent*; apex rounded; skin medium-thick, *Apricot Yellow* (K. 5, Pl. 9); dots small, close; flesh firm, *Cadmium*

Yellow (L. 7, Pl. 9), *fibreless* ; flavour mildly pleasant ; taste insipid ; juice scant to fairly abundant.

Stone oval, covered with short, coarse fibre all over, *veins forked and prominently raised*.

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to hoppers and winds. Keeping quality medium.

COHORT II—CLASS IV

Fruits roundish with a distinct or prominent beak. Leaves with sub-acuminate or acuminate tip and slightly or strongly folded.

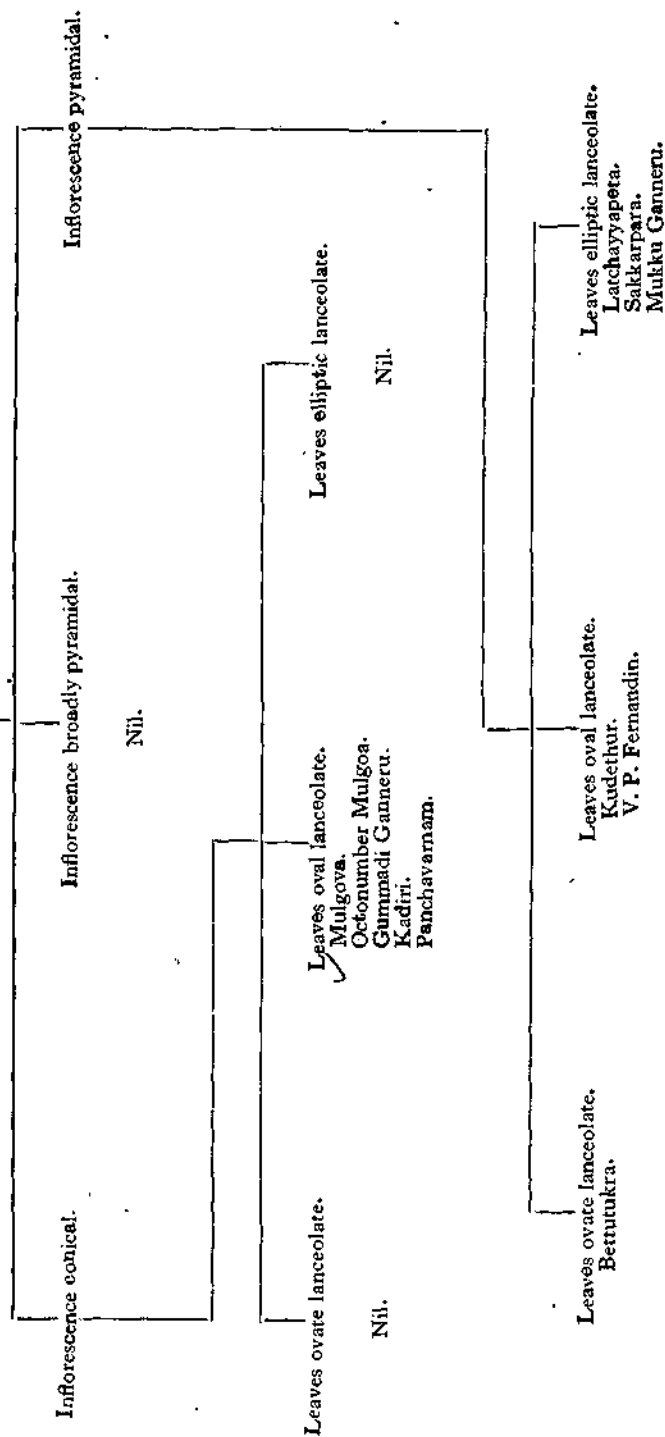
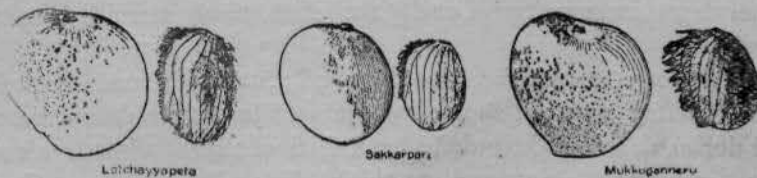
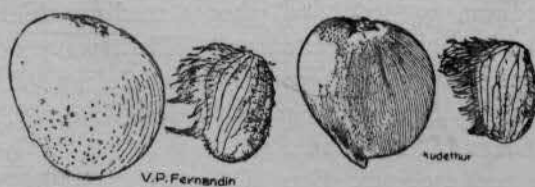
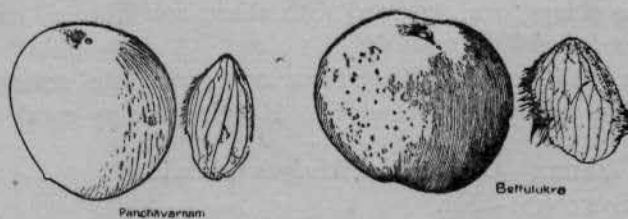
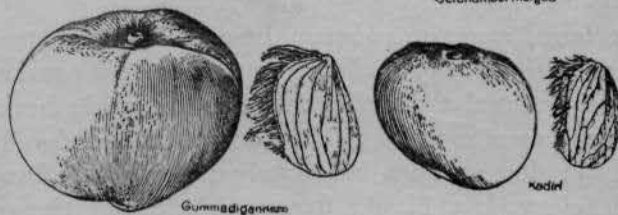
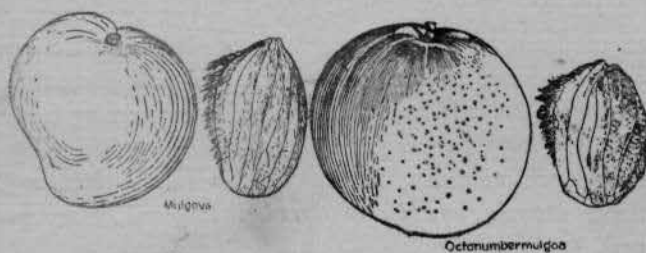


PLATE XIX.

COHORT II—CLASS IV.

Fruits roundish with distinct to prominent beak. Leaves with sub-acuminate or acuminate tip, slightly or strongly folded.



COHORT II—CLASS IV

Fruits roundish with a distinct or prominent beak. Leaves with sub-acuminate or acuminate tip, slightly or strongly folded.

VARIETY—*Mulgova* (Kodur).

SYNONYM—*Mulgoba*.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded, wavy with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Maddu Brown* (L. 8, Pl. 7), *turning Morocco Red* (L. 10, Pl. 6).

Inflorescence medium, Pyrite Yellow (L. 1, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, roundish oblique*; base obliquely flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and higher than dorsal; ventral and dorsal shoulders rounded; beak distinct; *sinus absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 9); dots medium, moderately distant; flesh firm, *fibreless*, Mustard Yellow (J. 3, Pl. 9); flavour delightful; taste very sweet.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good to best; bearing poor, late season; fairly susceptible to hoppers and winds. Keeping quality good.

VARIETY—*Octonumber Mulgoa* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick to slender. Leaves outheld, slightly reflexed and folded, wavy and with sub-acuminate tip. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Saccardos Umber* (L. 9, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Ecu Olive (L. 4, Pl. 14), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, roundish*; base flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak distinct; *sinus slight to absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small, distant; flesh firm, *fibreless*, Pinard Yellow (J. 2, Pl. 10); flavour delightful, taste sweet; moderately juicy.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing poor, late season ; fairly susceptible to hoppers and winds. Keeping quality good to very good.

VARIETY—*Gummadi Ganneru* (Kadiyam).

SYNONYM—Nil.

Tree small, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Buffy Citrine* (L. 8, Pl. 15), *turning Rainette Green* (L. 3, Pl. 13).

Inflorescence medium, *Spectrum Red* (L. 10, Pl. 4), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *large, ovate roundish* ; base flattened ; stalk inserted squarely ; *cavity deep* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders broadly rounded ; beak prominent ; *sinus absent* ; apex rounded ; skin medium-thick, *Light Cadmium* (L. 6, Pl. 9) ; dots small, moderately distant ; flesh soft, *fibreless*, *Apricot Yellow* (K. 5, Pl. 9) ; flavour mildly pleasant, taste medium sweet.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and prominently raised*.

Fruit quality medium ; bearing medium to poor ; mid-season ; resistant to hoppers and susceptible to winds ; keeping quality medium.

VARIETY—*Kadiri* (Mangalore).

SYNONYM—Kadri.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, folded and twisted with sub-acuminate tip. *Emerging leaves Mignonette Green* (L.I., Pl. 22), *immature growing leaves Olive Ochre* (L. 6, Pl. 12), *turning Tawney Olive* (E. 7, Pl. 13). ¶

Inflorescence large, *Corinthian Red* (J. 9, PL. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, cordate* ; base flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus absent* ; apex rounded ; skin medium-thick, *Primuline Yellow* (L. 6, Pl. 10), with a blush of *Orange Cinnamon* (L. 10, Pl. 12) on shoulders ; dots medium, close ; flesh firm to meaty, *fibreless*, *Primuline Yellow* (L. 6, Pl. 10) ; flavour delightful, taste sweet ; moderately juicy.

Stone oblong oval, covered with short, coarse fibre all over, *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, mid-season; fairly resistant to hoppers and resistant to winds. Keeping quality good.

VARIETY—*Panchavarnam* (Rajapalayam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip, *Emerging leaves Ecrú Olive* (L. 4, Pl. 14), *immature growing leaves Diamine Brown* (L. 6, Pl. 8), turning *Citrine* (L. 6, Pl. 14).

Inflorescence medium Diamine Brown (L. 2, Pl. 8), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, roundish; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak distinct; *sinus absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small, distant; flesh firm, *fibreless*; Light Cadmium (L. 6, Pl. 9); flavour delightful; taste very sweet; juice moderate to abundant.

Stone medium, oblong oval, covered with short, soft fibre all over, *veins slightly forked and raised*.

Fruit quality good; bearing medium, mid-season to late season; fairly susceptible to hoppers and winds. Keeping quality good.

VARIETY—*Bettutukra* (Kaup).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, moderately reflexed, strongly folded and with sub-acuminate tip. *Emerging leaves Spectrum Red* (L. 5, Pl. 4), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), turning *Prout's Brown* (J. 8, Pl. 15).

Inflorescence medium, Lime Green (K. 1, Pl. 12), sparsely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit large, ovate roundish; base flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder broader and level with dorsal; ventral shoulder broadly rounded, dorsal shoulder rounded; beak prominent, mammiiform, *sinus absent*, apex rounded, skin thin, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); dots small, distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour turpentine; taste moderately sweet; juice scant to fairly abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge ; *veins forked and slightly raised*.

Fruit quality medium to poor ; bearing medium, mid-season, fairly susceptible to hoppers and winds. Keeping quality medium to good.

VARIETY—*Kudethoor* (Kateel).

SYNONYM—*Kodettoor*.

Tree large, top dome shaped, shoots medium-thick. Leaves outheld, moderately reflexed and folded, with acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Ecu Olive* (L. 4, Pl. 14), *turning Citrine* (L. 6, Pl. 4).

Inflorescence medium, Nepal Red (L. 9, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to small* ; roundish ; base slightly flattened ; stalk inserted squarely, *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak incurved, *sinus absent*, apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10), dots small, close ; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 10) ; flavour delightful, taste very sweet ; juice moderate to abundant.

Stone oblong oval, covered with short, soft fibre all over, and medium on the ventral edge : *veins forked and slightly depressed*.

Fruit quality good ; fairly susceptible to winds and hoppers ; bearing heavy and early ; keeping quality medium.

VARIETY—*V. P. Fernandin* (Mangalore).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick, leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Absinthe Green* (L. 1, Pl. 13), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Pompeian Red (F. 10, Pl. 14), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *medium, roundish oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder slightly broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak distinct, *sinus absent*, apex rounded, skin thick, Light Cadmium (L. 6, Pl. 9) ; dots medium, distant ; flesh firm, Light Cadmium (L. 6, Pl. 9),

moderately fibrous, fibre medium and coarse, flavour delightful, taste medium sweet; juice moderately abundant.

Stone oblong oval, covered with short, coarse fibre all over and medium on the ventral edge, *veins parallel and slightly raised.*

Fruit quality good; bearing medium, mid-season; fairly resistant to hoppers and winds, keeping quality medium.

VARIETY—*Latchayyapeta* (Bobbili).

SYNONYM—Nil.

Tree medium to large, top oval, shoots slender. Leaves outheld, slightly reflexed, folded, wavy and crinkled, with sub-acuminate tip. *Emerging leaves Prout's Brown* (A. 9, Pl. 15), *immature growing leaves Verona Brown* (L. 12, Pl. 15), *turning Cinnamon Brown* (H. 12, Pl. 15).

Inflorescence medium, Martium Yellow (K. 1, PL. 11), densely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit *medium, roundish cordate*; base flattened; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus absent*; skin smooth, medium-thick, leathery, Light Cadmium (L. 6, Pl. 9); dots medium, moderately distant; flesh soft, Light Cadmium (L. 6, Pl. 9), *moderately fibrous, fibre medium and soft*; flavour mildly pleasant; taste moderately sweet; juice abundant.

Stone oblong oval, covered with medium, moderately abundant, soft fibre all over, *veins forked and slightly depressed.*

Fruit quality medium, bearing heavy, two crops—mid and late season, resistant to hoppers and winds. Keeping quality medium.

/ VARIETY—*Sakkarapara* (Banganapalli).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Hellibore Green* (L. 5, Pl. 15), *immature growing leaves Dark* (L. 6, Pl. 15), *turning Orange Citrine* (L. 7, Pl. 15).

Inflorescence medium, Old Rose (J. 2, Pl. 4), *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, roundish cordate*, base slightly flattened, stalk inserted squarely; *cavity absent*; ventral shoulder equal and broader than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus absent*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots small and close; flesh soft,

fibreless, Maize Yellow (J. 2, Pl. 9) ; flavour pleasant ; taste sweet ; juice abundant.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing heavy ; early to mid-season ; fairly susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Mukku Ganneru* (Kadiyam).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded with sub-acuminate tip. *Emerging leaves Cinnamon Brown* (L. 10, Pl. 15), *immature growing leaves Light Brownish Olive* (L. 11, Pl. 15), turning *Saccardos Umber* (L. 16, Pl. 14).

Inflorescence medium, *Light Corinthian Red* (H. 9, Pl. 4), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

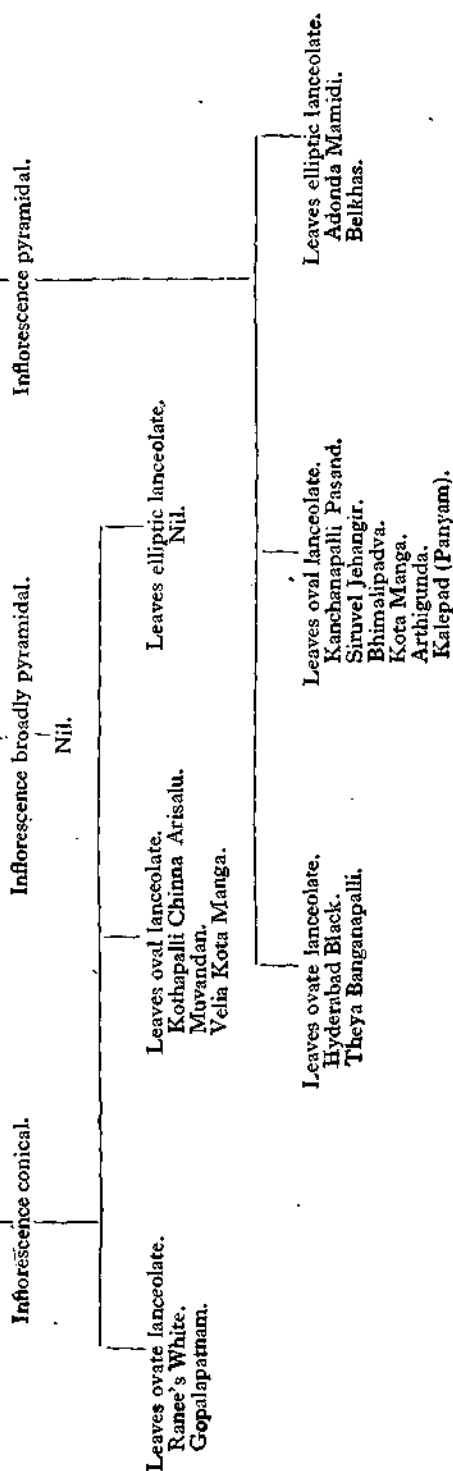
Fruit *medium, roundish ovate* ; base flattened ; stalk inserted squarely ; *cavity slight* ; shoulders equal and level, ventral slightly higher than dorsal and rounded, dorsal shoulder rounded to ending in a moderate curve ; beak broadly mammiform, *sinus slight* ; skin smooth, medium-thick, leathery, *Capucine Yellow* (L. 8, Pl. 9), dots medium, moderately distant ; flesh *fibreless*, firm, *Capucine Yellow* (L. 8, Pl. 9) ; flavour mild, taste moderately sweet, juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing medium and late ; moderately resistant to winds and hoppers ; keeping quality good.

COHORT III—CLASS I

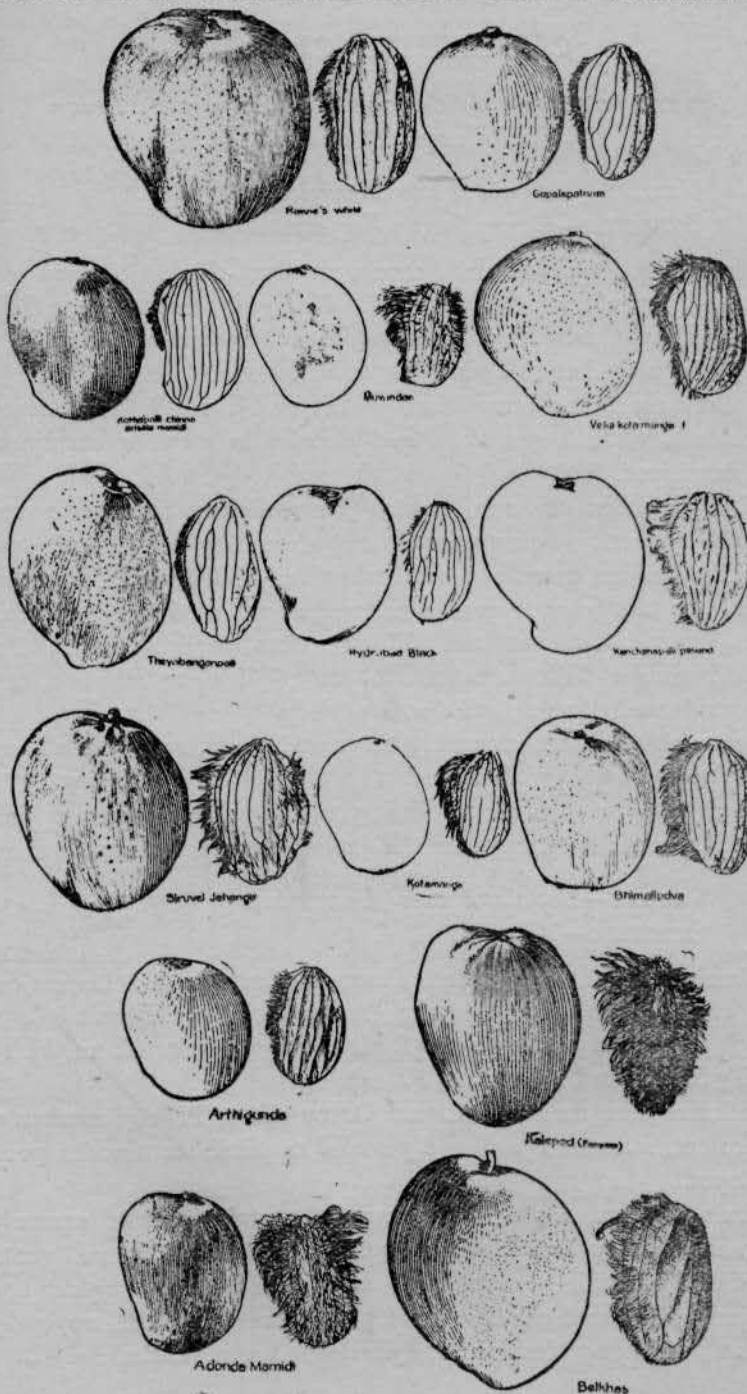
Fruits intermediate, with a point to missing beak. Leaves with acute tip and flat.



COHORT III—CLASS I.

PLATE XX.

Fruits intermediate with a point to missing beak. Leaves with acute tip and flat.



IX. VARIETY DESCRIPTIONS

COHORT III—CLASS I

Fruits intermediate with a point to missing beak. Leaves with acute tip and flat.

VARIETY—*Ranee's White* (Kadiyam).

SYNONYM—*Ranee Thella Kayalu*.

Tree large, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and crinkled. *Emerging leaves Clove Brown* (A. 12, Pl. 16), *immature growing leaves Cinnamon Brown* (L. 10, Pl. 15), *turning Sudan Brown* (D. 9, Pl. 14).

Inflorescence medium, Martins Yellow (J. 1, Pl. 11), densely puberulent, *pistil longer than and parallel to stamens*, staminodes well developed.

Fruit *medium to large, ovate*; base slightly flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, distant; flesh firm, Primuline Yellow (L. 6, Pl. 10); *fibreless*; flavour mild, taste moderately sweet; moderately juicy.

Stone oblong oval, covered with sparse, short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly resistant to winds and hoppers. Keeping quality medium.

VARIETY—*Gopalapatnam* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Cinnamon Brown* (L. 10, Pl. 15), *immature growing leaves Light Brownish Olive* (L. 11, Pl. 15), *turning Saccardos Umber* (L. 6, Pl. 14).

Inflorescence medium, Citron Green (K. 1, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak none; *sinus light*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots medium, distant; flesh firm, *fibreless*, Light Cadmium (L. 6,

Pl. 9) ; flavour mildly pleasant ; taste medium sweet ; juice fairly abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to winds and hoppers ; keeping quality fair to poor.

VARIETY—*Kothapalli Chinna Arisalu* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging and immature growing leaves Lime Green* (K. 1, Pl. 12), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Acajou Red (H. 10, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, ovate* ; base rounded ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak a point ; *sinus slight* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 5, Pl. 8) ; dots small, distant ; flesh firm, Primuline Yellow (L. 6, Pl. 10) ; *fibrous, fibre long and soft* ; flavour mild, taste moderately sweet, juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing heavy, mid-season ; fairly resistant to winds and hoppers ; keeping quality medium to fair.

VARIETY—*Moovandan* (Trichur).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, wavy and twisted. *Emerging leaves Medal Bronze* (L. 8, Pl. 15), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, coloured Hellebore Red (F. 3, Pl. 3), sparsely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *small, ovate to ovate oblong* ; stalk inserted squarely ; base rounded ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight to absent* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10) ; flesh soft, Light Cadmium (L. 6, Pl. 9) ; *moderately fibrous, fibre medium, soft* ; flavour pleasant ; taste moderately sweet to insipid, moderately juicy.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality poor to medium; bearing heavy, mid-season; moderately resistant to winds and hoppers; keeping quality poor to medium.

VARIETY—*Velia Kota Manga* (Palghat).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), turning *Mineral Green* (L. 3, Pl. 20).

Inflorescence large, Scarlet Red (L. 3, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, broad oval; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus absent*; apex rounded; skin medium-thick, Maize Yellow (J. 2, Pl. 9); dots small, distant; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour turpentine; taste insipid to medium sweet, moderately juicy.

Stone oblong, covered with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality poor; bearing heavy, early to mid-season; moderately susceptible to winds and hoppers.; keeping quality medium to poor.

VARIETY—*Hyderabad Black* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Buffy Citrine* (L. 8, Pl. 14), turning *Isabella Color* (L. 7, Pl. 14).

Inflorescence medium, Light Coral Red (E. 10, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, ovate, sub-reniform; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak none; *sinus shallow*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 9); flesh soft, *fibreless*,

Light Cadmium (L. 6, Pl. 9); flavour pleasant, taste moderately sweet.

Stone oblong oval, covered with short, soft fibre all over, *veins slightly forked and depressed*.

Fruit quality medium; bearing heavy, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Theya Banganapalli* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and crinkled. *Emerging leaves Medal Bronze* (L. 8, Pl. 15), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Deep Chrysolite Green* (L. 2, Pl. 13).

Inflorescence medium, Light Coral Red (F. 10, Pl. 4), densely puberulent, *pistil longer than and oblique to stamens*, staminodes poorly developed.

Fruit *medium to large, ovate oblique*; base obliquely flattened, stalk inserted squarely; *cavity slight to shallow*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak missing; *sinus slight*; apex broadly pointed; skin medium-thick, Maize Yellow (J. 2, Pl. 9); dots small, distant; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *fibreless*; flavour pleasant; taste moderately sweet; juice fairly abundant.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Kanchanapalli Pasand* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging and immature growing leaves Ecu Olive* (L. 4, Pl. 14), *turning Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Light Coral Red (E. 10, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate reniform*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus shallow*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour pleasant; taste medium sweet; moderately juicy.

Stone oblong oval, covered with short, soft fibre all over, and medium on the ventral edge, *veins slightly forked and raised*.

Fruit quality medium; bearing medium, mid-season; fairly resistant to winds and hoppers; keeping quality medium to fair.

VARIETY—*Siruvel Jehangir* (Siruvel).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Isabella Color* (L. 6, Pl. 13), *turning Pyrite Yellow* (L. 4, Pl. 13).

Inflorescence medium, Light Jasper Red (J. 9, Pl. 4), moderately puberulent, *stamens longer than and parallel to pistil, staminodes well developed*.

Fruit large, ovate; base rounded to slightly flattened and extended; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus absent*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots small, moderately distant; flesh soft, *fibreless*, Baryta Yellow (H. 2, Pl. 9); flavour acid, taste sour; juice fairly abundant.

Stone oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality poor; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium.

VARIETY—*Bhimalipadva* (Alamanda).

SYNONYM—*Buchirajupadva*.

Tree medium, top rounded, shoots medium-thick, Leaves outheld, slightly reflexed. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Light Coral Red (E. 10, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil, staminodes poorly developed*.

Fruit large, ovate; base rounded; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus absent*; apex rounded; skin thin, Light Cadmium (L. 6, Pl. 9); dots small, very distant; flesh firm, *fibreless*, Apricot Yellow (J. 5, Pl. 9); flavour pleasant; taste moderately sweet; juice fairly abundant.

Stone oblong oval ; covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to winds and hoppers ; keeping quality medium.

VARIETY—*Kota Manga* (Palghat).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Artimesia Green* (A. 1, Pl. 14), *turning Amber Brown* (A. 9, Pl. 14).

Inflorescence medium, Acajou Red (L. 7, Pl. 6), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oval ; base rounded ; stalk inserted squarely ; *cavity none* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10) ; dots medium, very distant ; flesh buttery, Cadmium Yellow (L. 7, Pl. 9) ; *moderately fibrous, fibre medium, soft* ; flavour turpentine, taste medium sweet, juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins slightly forked and raised*.

Fruit quality medium ; bearing heavy, early to mid-season ; fairly resistant to hoppers and winds ; keeping quality fair to poor.

VARIETY—*Arthigunda* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Ecu Green* (L. 5, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Scarlet Red (L. 9, Pl. 3), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit small, ovate ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; *sinus absent* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots small, moderately distant ; flesh firm, *fibreless*, Cadmium Orange (L. 10, Pl. 9) ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oblong oval, covered with coarse, short fibre all over, *veins parallel to forked and slightly depressed*.

Fruit quality medium to good ; bearing medium and mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Kalepad* (Panyam).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick, leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Yellowish Citrine* (L. 3, Pl. 13), *turning Ecru Olive* (L. 4, Pl. 14).

Inflorescence small, Ochre Red (K. 9, Pl. 6), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, ovate ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point, *sinus slight* ; apex rounded ; skin thick, Primuline Yellow (L. 5, Pl. 9), with a blush of Orange (L. 9, Pl. 10) on shoulders ; dots large, close ; flesh meaty, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone oblong, covered with medium, coarse fibre all over, *veins parallel and slightly raised*.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Adonda Mamidi* (Pithapuram).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick, leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Ecru Olive* (L. 4, Pl. 14), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence Coral Pink (F. 8, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, ovate ; base slightly flattened ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, moderately distant ; flesh soft, Empire Yellow (L. 2, Pl. 10) ; *moderately fibrous*, fibre medium, coarse ; flavour pleasant ; taste medium sweet ; juice fairly plentiful.

Stone oval, covered with medium, coarse fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing medium to heavy, mid-season ; susceptible to winds and fairly resistant to hoppers ; keeping quality fair to medium.

VARIETY—*Belkhas* (Trichur).

SYNONYM—Nil.

Tree large, top dome shaped, shoots slender, leaves outheld, slightly reflexed. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Empire Green* (L. 6, Pl. 16), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Viridine Green (K. 2, Pl. 19), moderately puberulent, *stamens shorter and oblique to pistil*, staminodes well developed.

Fruit *large, ovate oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity shallow* ; shoulders equal, ventral markedly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; *sinus slight* ; skin rough, thick, tough, Pinard Yellow (L. 3, Pl. 11) ; dots small, close ; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour pleasant ; moderately sweet ; juice fairly abundant.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium ; bearing medium, mid-season ; badly susceptible to hoppers and moderately resistant to winds ; keeping quality medium.

COHORT III—CLASS II

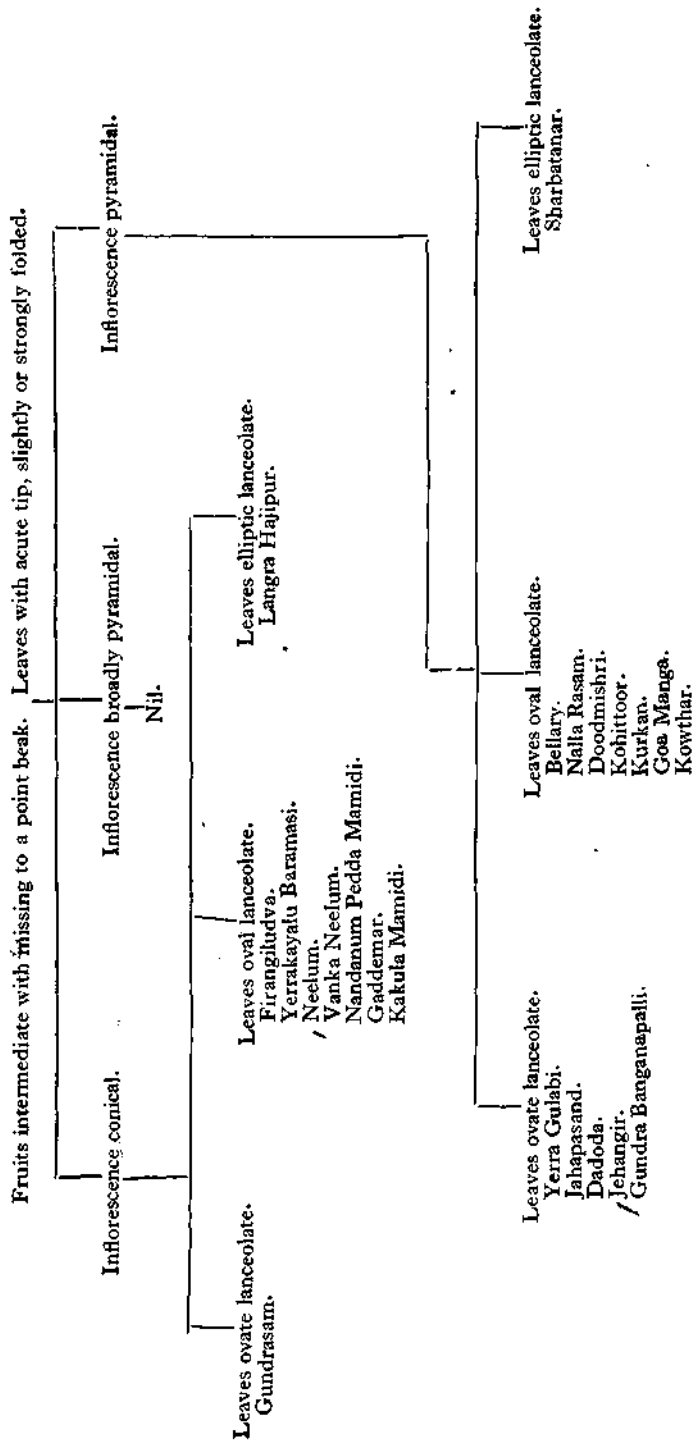
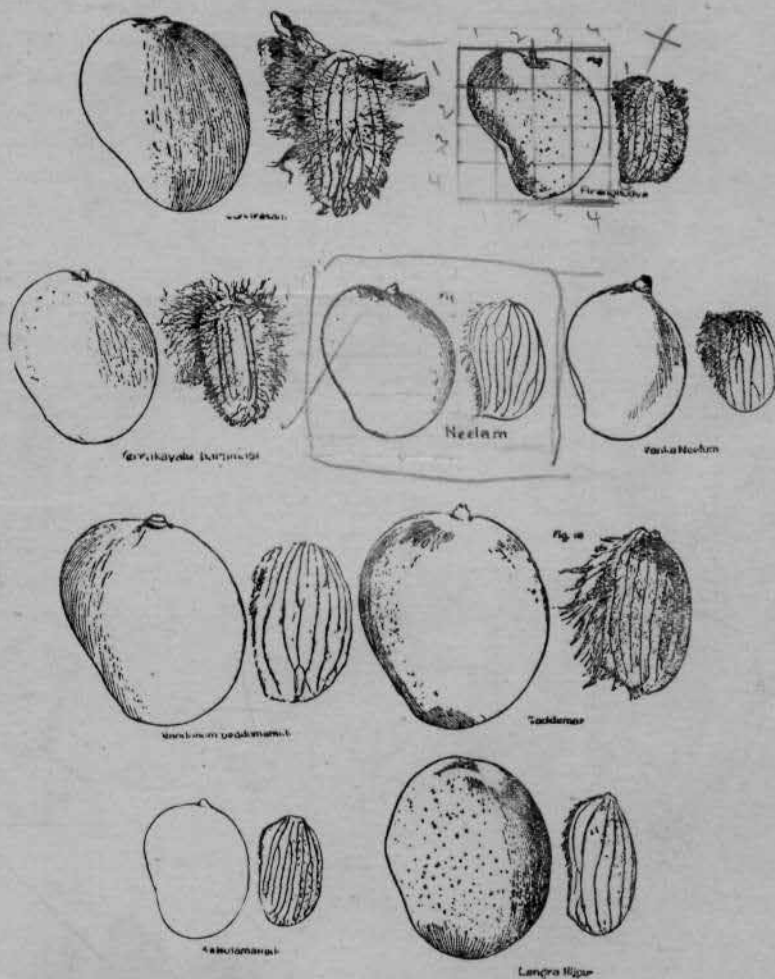
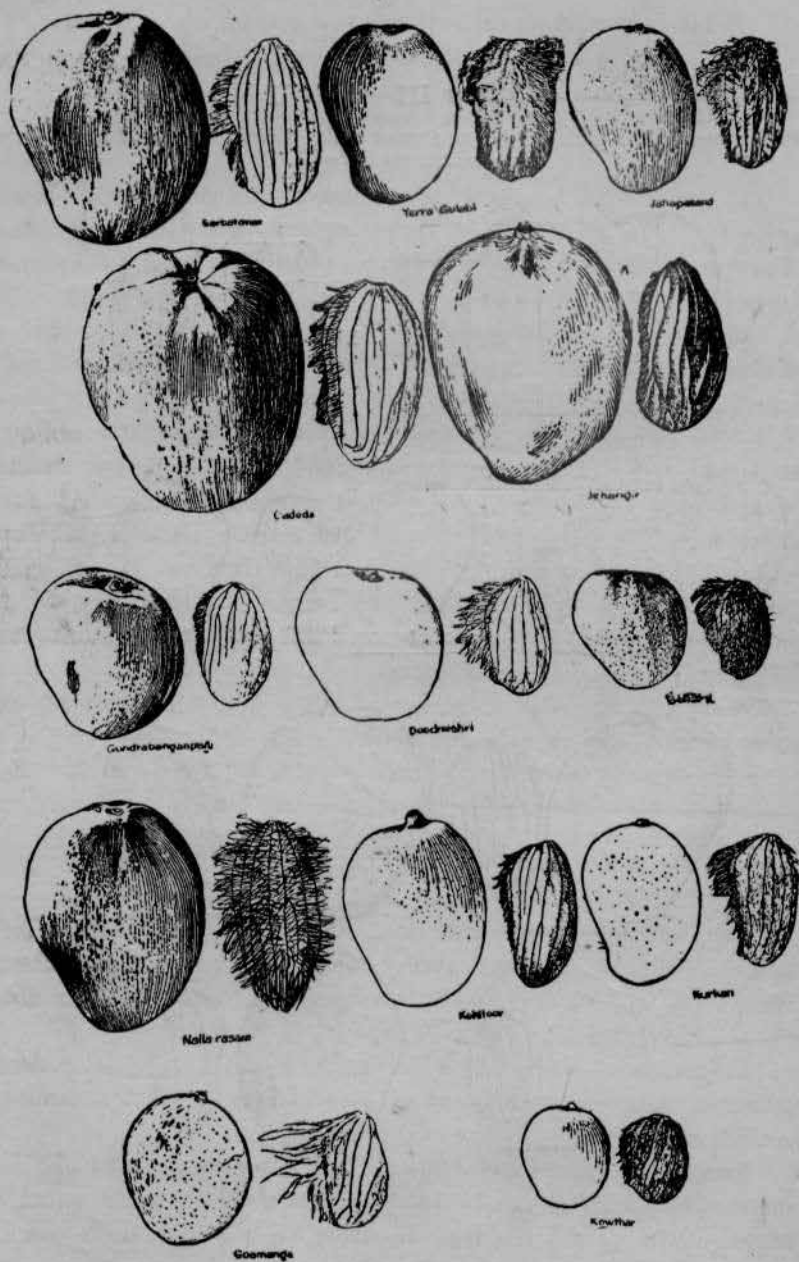


PLATE XXI.

COHORT III—CLASS II.

Fruits intermediate with missing to a point beak. Leaves with acute tip, slightly or strongly folded.





COHORT III—CLASS II

Fruits intermediate with missing to a point beak. Leaves with acute tip, slightly or strongly folded.

VARIETY—*Gundrasam* (Nuzvid).

SYNONYM—Nil.

• Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and strongly folded. *Emerging leaves Cinnamon Brown* (L. 10, Pl. 15), *immature growing leaves Forest Green* (L. 11, Pl. 15), *turning Saccardos Umber* (L. 6, Pl. 14).

Inflorescence medium, Light Corinthian Red (H. 9, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium to large, *ovate oblique*; base slightly obliquely flattened; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal; ventral shoulder rounded, dorsal shoulder ending in a long curve; beak none; *sinus slight*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots medium, close; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour pleasant; taste moderately sweet; juice abundant.

Stone oblong oval, covered with long and soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Firangiludva* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Dresden Brown* (L. 10, Pl. 14), *immature growing leaves Maddar Brown* (J. 11, Pl. 7), *turning Buffy Citrine* (L. 8, Pl. 14).

Inflorescence large, Light Corinthian Red (H. 9, Pl. 4); densely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

• Fruit medium, *ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak none; *sinus shallow*; apex rounded; skin membranous, Capucine Yellow (L. 3, Pl. 9); flesh firm, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour delightful; taste very sweet; juice fairly plentiful.

Stone oblong oval, covered with medium, soft fibre all over, *veins parallel, slightly depressed to grooved*.

Fruit quality very good, bearing medium to heavy, mid-season, moderately resistant to winds and hoppers, keeping quality medium.

VARIETY—*Yerrakayalu Baramasi* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (K. 5, Pl. 14), *immature growing leaves Buffy Citrine* (K. 8, Pl. 14), *turning Chestnut Brown* (A. 11, Pl. 7).

Inflorescence medium, Coral Pink (F. 9, Pl. 3), moderately puberulent, *stamens shorter than and oblique to pistil, staminodes poorly developed*.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and higher than dorsal; ventral shoulder rising and then rounded; dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, Pl. 9); dots small and close; flesh firm, Capucine Yellow (L. 8, Pl. 9), *fibrous, fibre medium, sparse and coarse*; flavour strongly aromatic; taste very sweet; juice abundant.

Stone oblong oval; covered with coarse, medium fibre all over, *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, mid-and off-season; fairly resistant to winds and hoppers; keeping quality medium.

VARIETY—*Neelum* (Kodur).

SYNONYM—*Kajaladdu*.

Tree medium, top dome-shaped, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Diamine Brown* (L. 4, Pl. 8), *turning Verona Brown* (L. 12, Pl. 15).

Inflorescence medium, Oil Green (L. 2, Pl. 22), sparsely puberulent, *stamens equal and parallel to pistil, staminodes poorly developed*.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity slight to absent*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder sloping to ending in a long curve; beak a point; *sinus shallow*; apex rounded; skin medium-thick, Capucine Yellow (K. 8, Pl. 10); dots medium, moderately distant; flesh *fibresless*, Primuline Yellow (L. 5, Pl. 9), flavour delightful; taste sweet; juice moderately abundant.

Stone oblong oval, covered with soft, short fibre all over, *veins slightly forked and raised*.

Fruit quality good ; bearing heavy, often twice, late and off-season, moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Vanka Neelum*. (Kojur).

SYNONYM—Nil.

Tree medium ; top rounded ; shoots medium-thick. Leaves outheld and slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (L. 3, Pl. 13), *immature growing leaves Pyrite Yellow* (L. 4, Pl. 13), *turning Olive Lake* (L. 5, Pl. 13).

Inflorescence medium, Citron Green (J. 1, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil, staminodes poorly developed*.

Fruit *small to medium oval* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder broader and level with dorsal ; ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak a point ; *sinus shallow* ; apex rounded ; skin medium-thick, Capucine Yellow (K. 8, Pl. 10) ; dots medium, moderately distant ; flesh firm, *fibreless*, Capucine Yellow (K. 8, Pl. 9) ; flavour pleasant ; taste medium sweet.

Stone oval ; covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium, bearing medium, twice-early and off-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Nandanam Pedda Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Yellowish Oil Green* (K. 3, Pl. 14).

Inflorescence medium, Rose Dore (G. 9, Pl. 2), densely puberulent, *stamens shorter than and parallel to pistil ; staminodes poorly developed*.

Fruit *medium to large, ovate to ovate oblique* ; base slightly flattened and extended, stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder slightly higher and rounded, dorsal shoulder ending in a long curve ; beak a point to missing ; *sinus slight* ; apex rounded ; skin very thin, Cadmium Yellow (L. 7, Pl. 9) ; dots medium distant ; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 9) ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins parallel to forked and prominently raised*.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Gaddemar* (Kodur).

SYNONYM—*Pickle*.

Tree medium, top rounded, shoots medium-thick. Leaves downheld, slightly reflexed and strongly folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Acajou Red* (L. 7, Pl. 6), *turning Light Seal Brown* (L. 8, Pl. 8).

Inflorescence large, Coral Red (F. 10, Pl. 3), densely puberulent, *stamens shorter than and parallel to pistil*; staminodes poorly developed.

Fruit large, ovate ; base slightly flattened ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; *sinus slight* ; apex rounded ; skin medium-thick, Capucine Yellow (L. 8, Pl. 10) ; dots small, distant ; flesh soft, sparsely *fibrous*, *fibre scant, medium and soft* ; Capucine Yellow (L. 8, Pl. 10), flavour acid ; taste sour, juice fairly abundant.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality poor as a dessert fruit but good for culinary uses, bearing medium and late season ; keeping quality medium to poor.

VARIETY—*Kakula Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Medal Bronze* (L. 8, Pl. 15), *immature growing leaves Dresden Brown* (L. 10, Pl. 14), *turning Ecru Green* (L. 5, Pl. 14).

Inflorescence small, Apricot Buff (A. 10, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit small, oval ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9), with a blush of Madder Brown (J. 10, Pl. 7) on shoulders ; dots small, moderately distant ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste very sweet ; juice scant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing medium, mid-season ; susceptible to hoppers and moderately resistant to winds ; keeping quality good.

VARIETY—*Langra Hajipur* (Kadium).

SYNONYM—Nil.

Tree medium, top dome shaped, *shoots slender*. Leaves outheld, slightly reflexed and folded ; *Emerging leaves Diamine Brown* (L. 3, Pl. 8), *immature growing leaves Madder Brown* (L. 7, Pl. 7), *turning Chestnut Brown* (A. 11, Pl. 7).

Inflorescence large, Vandyke Red (L. 2, Pl. 7), turning Chestnut Brown (A. 11, Pl. 7), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval* ; base rounded ; stalk inserted squarely ; *cavity slight* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak and *sinus absent* ; apex broadly rounded ; skin thick, tough, rough, Primuline Yellow (L. 5, Pl. 9), with a blush of Cadmium Orange (L. 9, Pl. 10) on shoulders ; dots small and distant ; flesh firm to meaty ; *fibreless* ; flavour delightful ; taste sweet ; juice scanty.

Stone oblong oval, covered with short, sparse and coarse fibre all over, *veins forked and slightly depressed*.

Fruit quality good ; bearing medium, mid-season ; resistant to hoppers and winds ; keeping quality good.

VARIETY—*Sharbatanar* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, leaves outheld, slightly reflexed and folded. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Yellowish Citrine* (L. 3, Pl. 13), *turning Deep Chrysolite Green* (L. 2, Pl. 13).

Inflorescence medium, Prussian Red (E. 11, Pl. 6), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, ovate*, base slightly flattened ; stalk inserted squarely, *cavity none* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve, beak a point ; *sinus slight* ; apex rounded ; skin thick, Lemon Chrome (L. 4, Pl. 9) ; dots medium, distant ; flesh soft, *fibreless*, Empire Yellow (K. 4, Pl. 10) ; flavour pleasant ; taste very sweet ; juice abundant.

Stone oblong ; covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; moderately resistant to winds and hoppers ; bearing poor to medium, mid-season ; keeping quality medium.

VARIETY—*Yerra Gulabi* (Nuzwid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, leaves outheld, slightly reflexed and folded. *Emerging leaves* Claret Brown (L. 10, Pl. 7), *immature growing leaves* Emerald Green (L. 12, Pl. 7), turning *Saccardos Umber* (L. 9, Pl. 14).

Inflorescence medium, Brussels Brown (H. 10, Pl. 15), densely puberulent, staminodes poorly developed.

Fruit medium, *ovate reniform*: base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus shallow*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots medium and moderately distant; flesh soft, Primuline Yellow (L. 5, Pl. 9); *moderately fibrous, fibre long and coarse*. Flavour pleasant; taste medium sweet; juice abundant.

Stone oblong oval: covered with medium and coarse fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; badly susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Jaha Pasand* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves* Rainette Green (L. 3, Pl. 14), *immature growing leaves* Ecrú Green (L. 5, Pl. 15), turning *Citrine* (L. 6, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 2), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit medium, *ovate oblong*; base rounded; stalk inserted squarely; *cavity absent*, ventral shoulder broader than and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; *beak a point*; *sinus slight to shallow*; apex rounded; skin thin, Capucine Yellow (L. 8, Pl. 10); dots small, close; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour delightful; taste sweet, juice moderately abundant.

Stone oblong oval; covered with short, soft fibre all over; *veins parallel and prominently raised*.

Fruit quality good; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium to poor.

VARIETY—*Dadoda* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Cinnamon Brown* (F. 9, Pl. 14), *turning Buckthorn Brown* (H. 7, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 14), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base flattened; stalk inserted squarely *cavity deep*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak a point to missing; *sinus slight*; apex broadly rounded; skin medium-thick, Lemon Chrome (L. 4, Pl. 9); dots small and close; flesh soft, *fibreless*, Empire Yellow (K. 3, Pl. 9); flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong; covered with short, soft fibre all over and medium on the ventral edge; *veins forked and slightly depressed*.

Fruit quality medium; bearing poor, mid-season; moderately susceptible to winds and susceptible to hoppers; keeping quality fair.

VARIETY—*Jehangir* (Kodur).

SYNONYM—*Umdra*.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (L. 3, Pl. 13); *immature growing leaves Olive Ochre* (D. 7, Pl. 12).

Inflorescence medium, Corinthian Red (J. 3, Pl. 5), densely puberulent, *stamens and pistil equal and parallel*, staminodes poorly developed.

Fruit *large, ovate*; base slightly flattened and extended; stalk inserted squarely; *cavity absent*; beak absent; shoulders equal, level and rounded; *sinus absent*; apex broadly pointed; dots medium; distant; skin thick, rough, tough, Deep Chrome (L. 7, Pl. 10); flesh firm to soft; *fibreless*, Lemon Chrome (L. 4, Pl. 9); flavour delightful; taste very sweet; juice moderate to abundant.

Stone oblong, covered with short, soft, sparse fibre all over, *veins forked and slightly depressed*.

Fruit quality one of the best; bearing poor, mid-season; badly susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Gundra Banganapalle* (Nuzvid).

SYNONYM—Nil.

Tree small, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Mignonette Green*

(L. 1, Pl. 14), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens equal and oblique to pistil*; staminodes poorly developed.

Fruit *medium, ovate*; base obliquely flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal; ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex rounded; skin thin, Cadmium Yellow (L. 7, Pl. 9); dots small, distant; flesh firm, *fibreless*; Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste medium sweet.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good; bearing medium to heavy, mid-season; moderately resistant to winds and hoppers. Keeping quality medium.

VARIETY—*Bellary* (Kaup).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Cinnamon Brown* (K. 11, Pl. 14), *immature growing leaves Antique Brown* (L. 9, Pl. 14), *turning Buff Citrine* (L. 1, Pl. 20).

Inflorescence medium, Citron Green (K. 1, Pl. 20), densely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit *small, ovate*, base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; *sinus slight*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots large, moderately distant; flesh soft, Apricot Yellow (L. 4, Pl. 10); *sparsely fibrous, fibre medium and soft*; flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oval, covered with medium, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing heavy, early to mid-season; Keeping quality fair to medium.

VARIETY—*Nalla Rasam* (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. *Emerging leaves, Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Yellow Green (L. 3, Pl. 9), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oval; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded to broadly pointed; skin medium-thick, Cadmium Yellow (L. 7, Pl. 8); dots large, distant; flesh soft, Maize Yellow (J. 2, Pl. 8); *moderately fibrous, fibre medium and soft*; flavour pleasant, taste moderately sweet; juice fairly plentiful.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to hoppers and winds. Keeping quality medium.

VARIETY—*Doodmishri* (Moodabidri).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves outheld, strongly reflexed and folded. *Emerging leaves Absinthe Green*, (L. 1, Pl. 13), *immature growing leaves Yellowish Citrine* (L. 3, Pl. 13), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Coral Red (F. 10, Pl. 3), densely puberulent, *stamens longer than and parallel to pistil*, staminodes poorly developed.

Fruit medium, ovate; base slightly flattened; stalk inserted squarely; *cavity slight to shallow*; shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus absent*; dots small and close; skin medium-thick, leathery, Light Cadmium (L. 6, Pl. 9), with a blush of Morocco Red (K. 10, Pl. 6) on shoulders; flesh firm, *fibreless*, Deep Chrome (L. 7, Pl. 10); flavour pleasant; taste sweet; juice scanty to moderate.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to sooty mould and winds. Keeping quality good

VARIETY—*Kohittoor* (Bobbili).

SYNONYM—Nil.

Tree large, top oval, shoots thick, leaves outheld, moderately reflexed and slightly crinkled and folded. *Emerging leaves Medal Bronze* (L. 9, Pl. 15), *immature growing leaves Cinnamon Brown* (L. 10, Pl. 15), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence large, Japan Rose (D. 10, Pl. 4), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *small to medium, ovate*; base slightly flattened and extended; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, close; flesh soft, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste medium sweet; juice scant to moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers. Keeping quality fair to medium.

VARIETY—*Kurkan* (Taliparamba).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (L. 4, Pl. 13), *immature growing leaves Mignonette Green* (L. 1, Pl. 22), *turning Viridine Green* (L. 2, Pl. 19).

Inflorescence medium, Coral Pink (E. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to small, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal; ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex rounded; beak a point; skin medium-thick, Capucine yellow (L. 6, Pl. 10); flesh Light Cadmium (L. 6, Pl. 9), *moderately fibrous, fibre medium and soft*; flavour aromatic, taste medium sweet; juice moderate to abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing heavy, early, moderately resistant to winds and hoppers. Keeping quality fair to medium.

VARIETY—*Goa Manga* (Ponnani).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to small, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus absent*; apex rounded; skin thick, Capucine Yellow (K. 8, Pl. 10), with a blush of Rose Red (L. 4, Pl. 4) on shoulders; dots medium, distant; flesh soft, Capucine Yellow (L. 8, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour turpentine; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with medium, soft fibre all over and long on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium; bearing heavy, mid-season; moderately resistant to hoppers and winds. Keeping quality medium to poor.

VARIETY—*Kowthar* (Mangalore).

SYNONYM—Nil.

Tree small, top rounded, shoots slender, leaves outheld, slightly reflexed and folded. *Emerging leaves Cinnamon Brown* (L. 10, Pl. 15), *immature growing leaves Cobra Brown* (H. 10, Pl. 8).

Inflorescence medium, Apricot Buff (A. 10, Pl. 4); moderately puberulent, *stamens longer than and oblique to pistil*; staminodes well developed.

Fruit *small, ovate*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 8, Pl. 10); dots small, moderately distant; flesh firm, Capucine Yellow (L. 8, Pl. 10); *fibreless*; flavour pleasant; taste sweet; juice moderately abundant.

Stone oval, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium to good; bearing heavy, in clusters, mid-season; resistant to hoppers and winds; keeping quality good.

COHORT III--CLASS III

Fruits intermediate with a point to missing beak. Leaves with acuminate to sub-acuminate tip and flat.

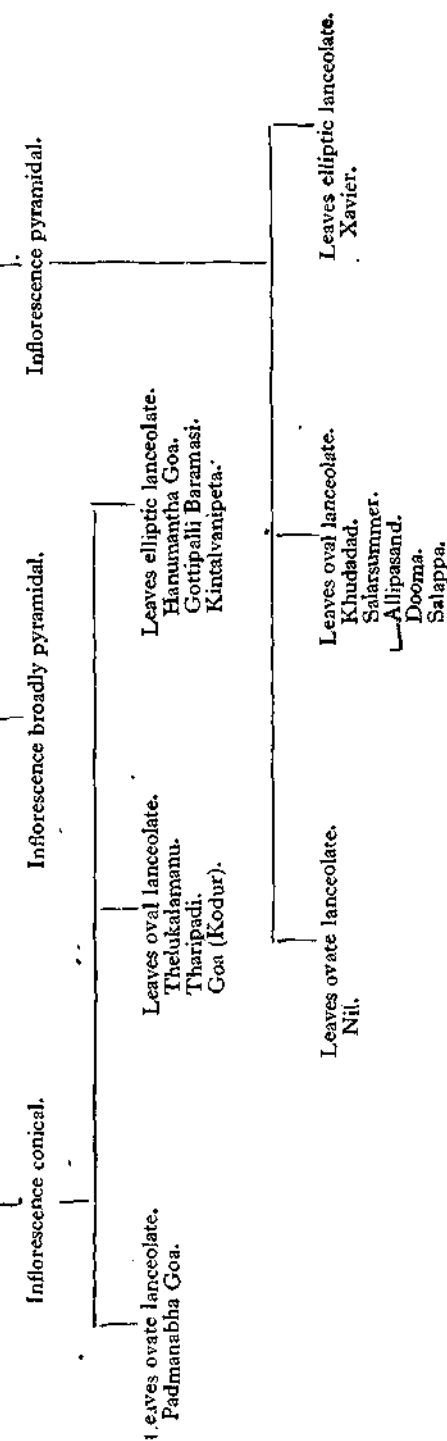
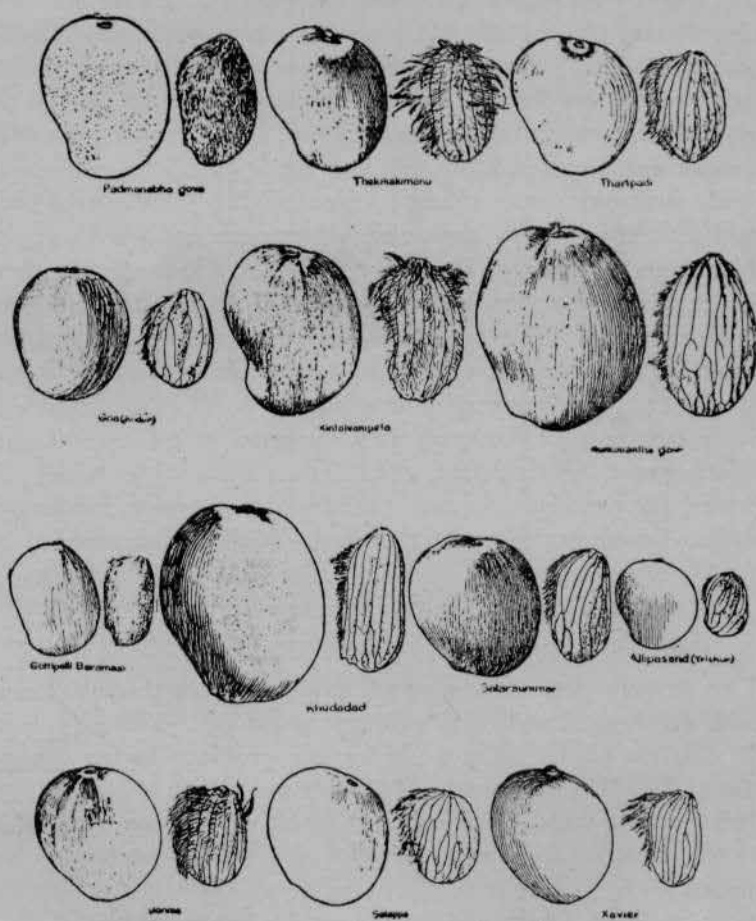


PLATE XXII.

COHORT III—CLASS III.

Fruits intermediate with a point to missing beak. Leaves with acuminate to sub-acuminate tip and flat.



COHORT III—CLASS III

Fruits intermediate with a point to missing beak. Leaves with acuminate to sub-acuminate tip and flat.

VARIETY—*Padmanabha Goa* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Dresden Brown* (L. 10, Pl. 14), *immature growing leaves Madder Brown* (L. 11, Pl. 7), *turning Buffy Citrine* (L. 8, Pl. 14).

Inflorescence medium, Light Corinthian Red (H. 9, Pl. 4), densely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit medium, *ovate oblong*; base slightly flattened; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded; dorsal shoulder ending in a long curve; beak missing; *sinus slight*; apex rounded; skin medium-thick, *Primuline Yellow* (L. 6, Pl. 9); dots large, moderately distant; flesh firm, *fibreless*, *Orange* (L. 9, Pl. 10); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season, moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Thelukalamanu* (Alamanda).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Medal Bronze* (L. 8, Pl. 15).

Inflorescence large, Coral Pink (E. 9, Pl. 3), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit medium, *ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak none; *sinus slight*; apex rounded; skin medium-thick, *Deep Chrome* (L. 7, Pl. 10); dots medium, moderately distant; flesh soft, *Cadmium Yellow* (L. 7, Pl. 9), *moderately fibrous, fibre medium and soft*; flavour pleasant; taste medium sweet; juice fairly plentiful.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately susceptible to winds and hoppers. Keeping- quality medium to poor.

VARIETY—*Tharipadi* (Mangalore).

SYNONYM—Taripadi.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, wavy and with acuminate tip. *Emerging leaves Medal Bronze* (L. 8, Pl. 15), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Hellebore Green* (L. 5, Pl. 15).

Inflorescence large, Courge Green (L. 1, Pl. 12), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit medium, *ovate oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded ; dorsal shoulder ending in a moderate curve ; beak a point ; *sinus none* ; apex rounded ; skin thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, distant ; flesh firm, *fibreless*, Orange (L. 9, Pl. 10) ; flavour pleasant, taste very sweet ; juice moderate to abundant.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing heavy to medium ; moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Goa* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and with sub-acuminate tip. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Saccardos Umber* (L. 9, Pl. 14), *turning Buffy Citrine* (L. 8, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit medium, *ovate* ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus absent* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10) ; flesh *fibreless*, Cadmium Yellow (L. 7, Pl. 9) ; flavour mild ; taste medium sweet ; juice moderately abundant.

Stone oval, covered with short, soft fibre all over and medium on the ventral edge, *veins slightly forked and depressed*.

Fruit quality medium; bearing medium, mid-season; badly susceptible to hoppers and winds; keeping quality fair.

VARIETY—*Hanumantha Goa* (Pithapuram).

SYNONYM—Nil.

Tree large, top rounded, shoots slender. Leaves outheld, slightly reflexed and with sub-acuminate tip. *Emerging leaves Light Yellowish Olive* (K. 2, Pl. 13), *immature growing leaves Ecrú Olive* (J. 4, Pl. 13).

Inflorescence medium, Lettuce Green (L. 3, Pl. 21), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large ovate*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex rounded; skin thick; Primuline Yellow (L. 5, Pl. 9); dots small, moderately distant; flesh firm, Apricot Yellow (K. 5, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour moderately pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium, bearing medium, mid-season; fairly susceptible to winds and hoppers. Keeping quality medium.

VARIETY—*Gottipalli Baramasi* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning Medal Bronze* (L. 8, Pl. 15).

Inflorescence medium, Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *small, oval*; base rounded; stalk inserted squarely; *cavity absent*; shoulders level, ventral broader than dorsal and rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex rounded; skin smooth, medium-thick, leathery, Capucine Yellow (L. 8, Pl. 10); dots medium, moderately distant; flesh soft, Primuline Yellow (L. 6, Pl. 10); *moderately fibrous, fibre medium and soft*; flavour mild; taste moderately sweet; juice abundant.

Stone oblong oval, covered with short to medium, soft fibre all over, *veins forked and grooved*.

Fruit quality medium; bearing heavy, early and late season; moderately resistant to hoppers and winds. Keeping quality medium.

VARIETY—*Kintalvanipeta* (Bobbili).

SYNONYM—*Bobbili Punasa*; *Bobbili Peddakayalu Punasa*.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Viridine Green (K. 2, Pl. 19), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium, ovate reniform*; base slightly flattened, stalk inserted squarely, *cavity shallow*; shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; stalk inserted squarely; beak missing; *sinus shallow*; apex rounded; skin medium-thick, Capucine Yellow (K. 7, Pl. 9); dots medium, moderately distant; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre medium, moderate and soft*; flavour mildly pleasant; taste medium sweet; juice fairly plentiful.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium to poor.

VARIETY—*Khudadad* (Salem).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Ecrú Olive* (L. 4, Pl. 14), *turning Olive Lake* (K. 5, Pl. 13).

Inflorescence medium, Nepal Red (L. 9, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oval*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin thick, Light Cadmium (L. 6, Pl. 9); dots medium, moderately distant; flesh soft, *fibresless*, Primuline Yellow (L. 5, Pl. 9); flavour delightful; taste sweet, juice abundant.

Stone oblong oval ; covered with short, soft fibre all over, *veins slightly forked and raised*.

Fruit quality medium to poor ; bearing medium to heavy, mid-season ; moderately resistant to winds and hoppers. Keeping quality medium to poor.

VARIETY—*Salarsummer* (Kadiyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Orange Citrine* (B: 8, Pl. 14), *turning Ecrû Olive* (L. 4, Pl. 14).

Inflorescence large, Medal Bronze (L. 8, Pl. 15), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *large, ovate* ; base slightly flattened ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; stalk inserted squarely ; *cavity shallow* ; beak a point ; *sinus slight* ; apex rounded ; skin medium-thick, Capucine Yellow (K. 7, Pl. 9) ; dots medium, moderately distant ; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9) ; flavour mildly pleasant ; taste medium sweet ; juice moderate to abundant.

Stone oblong oval, covered with short and soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Allipasand* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Claret Brown* (L. 10, Pl. 7), *immature growing leaves Emerald Green* (L. 12, Pl. 7), *turning Antique Brown* (I. 9, Pl. 14).

Inflorescence medium, Brussels Brown (H. 10, Pl. 15), sparsely puberulent, *stamens and pistil equal and parallel*, staminodes poorly developed.

Fruit *small, ovate* ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, **ventral shoulder rounded, dorsal shoulder** ending in a moderate curve ; beak a point ; apex rounded ; *sinus slight* ; skin rough, medium-thick, leathery, Apricot Yellow (L. 4, Pl. 10) ; dots small, distant ; flesh firm, Deep

Chrome (L. 7, Pl. 10); sparsely *fibrous, fibre medium and soft*; flavour turpentine; taste flat; juice scant to fairly abundant.

Stone oval, covered all over with sparsely abundant, medium and soft fibre, *veins forked and slightly raised*.

Fruit quality poor; bearing medium and late; badly effected by hoppers and resistant to winds. **Keeping quality medium.**

VARIETY—*Dooma* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with sub-acuminate tip. *Emerging leaves Java Green* (L. 3, Pl. 21), *immature growing leaves Mineral Green* (L. 3, Pl. 20), *turning Callisette Green* (L. 2, Pl. 17).

Inflorescence medium, Light Coral Red (E. 10, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve. **Beak absent, sinus absent**; apex rounded; skin medium-thick, **Deep Chrome** (L. 7, Pl. 10); flesh **Cadmium Yellow** (L. 7, Pl. 9), **soft**; dots small, distant; sparsely *fibrous, fibre medium, soft*; flavour pleasant; taste very sweet; juice abundant.

Stone oval, covered with medium, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium to poor.

VARIETY—*Salappa* (Mangalore).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, wavy, with sub-acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Sayal Brown (C. 10, Pl. 4), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus absent*; apex rounded; skin medium-thick, **Primuline Yellow** (L. 6, Pl. 10); dots small, moderately distant, flesh soft, **Cadmium Yellow**

(L. 7, Pl. 8), *fibreless*; flavour mildly pleasant, taste sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers. Keeping quality medium.

VARIETY—*Xavier* (Uchila).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld and slightly reflexed, with sub-acuminate tip. *Emerging and immature growing leaves Grape Green* (L. 2, Pl. 14), turning *Mignonette Green* (L. 1, Pl. 22).

Inflorescence large, Old Rose (J. 4, Pl. 3), sparsely puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

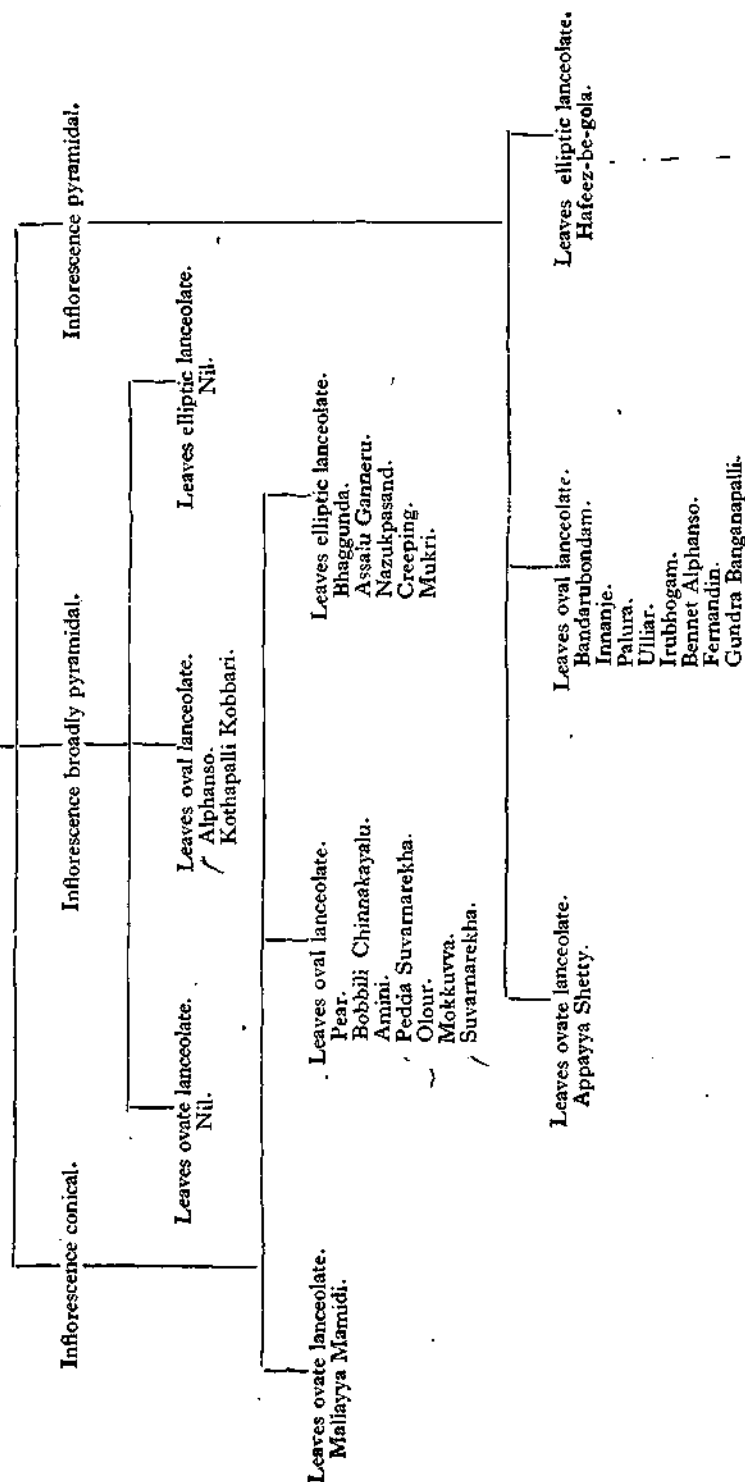
Fruit *medium, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal; ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 9); dots small and close; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

COHORT III—CLASS IV

Fruits intermediate with missing to a point beak. Leaves with sub-acuminate to acuminate tip, slightly or strongly folded.



COHORT III—CLASS IV.

Fruits intermediate with missing to a point beak.
Leaves with acuminate to sub-acuminate tip, slightly or strongly folded.

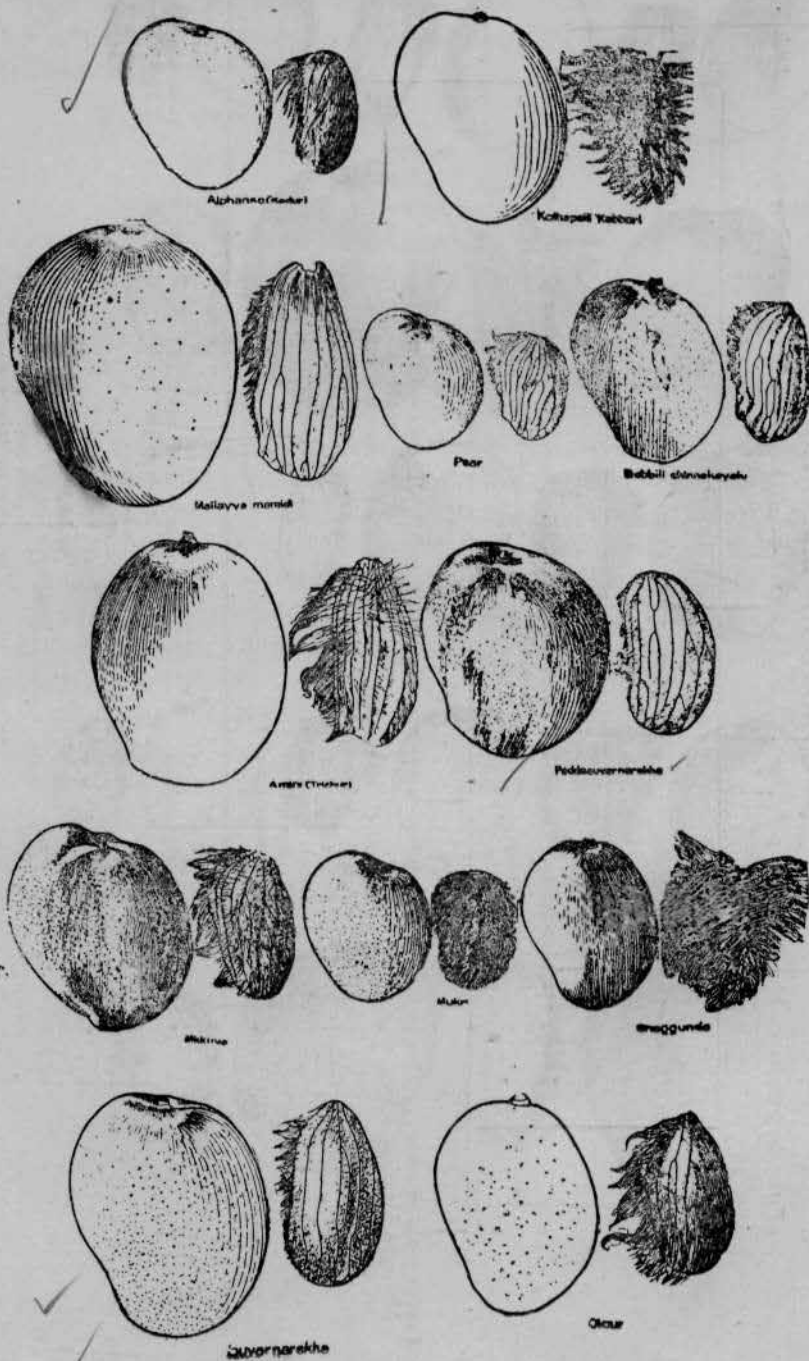
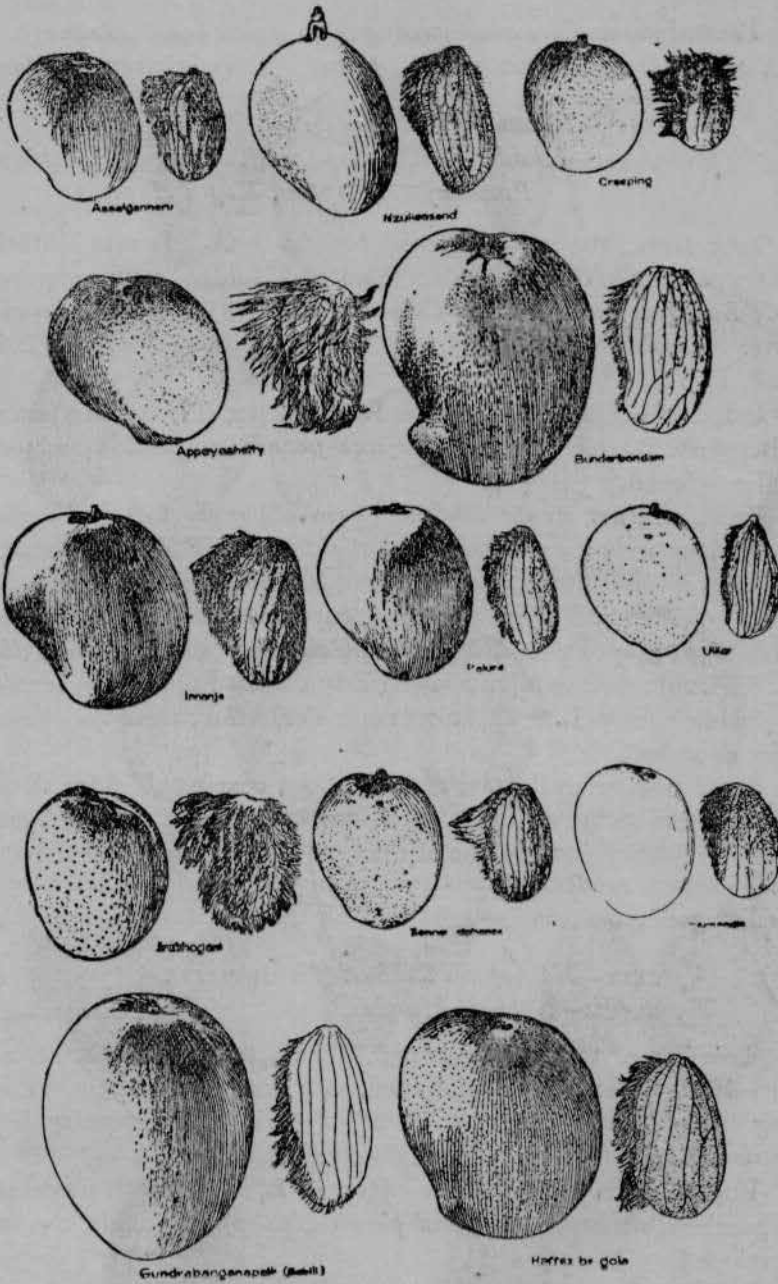


PLATE XXIII—cont.



B

COHORT III—CLASS IV

Fruits intermediate with missing to a point beak. Leaves with acuminate to sub-acuminate tip and slightly or strongly folded.

VARIETY—*Alphanso* (Mangalore).

SYNONYM—*Khader*, *Khaderpasand*, *Gundu*, *Badami*, *Patnamjathi*, *Appus*, *Kagdi Haphus*.

Tree large, top oval, shoots medium-thick. Leaves outheld, moderately reflexed, slightly crinkled and folded, with acuminate tip. *Emerging leaves* *Isabella Color* (J. 7, Pl. 14), *immature growing leaves* *Cinnamon Brown* (J. 10, Pl. 15), turning *Buffy Citrine* (L. 8, Pl. 14).

Inflorescence large, Prussian Red (E. 10, Pl. 6), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity absent to slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak absent to a point; *sinus slight*; apex rounded; skin medium-thick, *Capucine Yellow* (L. 8, Pl. 10); dots medium, moderately distant; flesh firm, *fibreless*, *Capucine Yellow* (L. 8, Pl. 10); flavour delightful; taste very sweet; juice abundant.

Stone oblong oval, covered with short, coarse, stiff fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality good to one of the best; bearing medium to heavy, mid-season; moderately resistant to hoppers and winds; keeping quality good.

VARIETY—*Kothapalli Kobbari* (Pithapuram).

SYNONYM—*Kobbari Mamidi*.

Tree large, top dome shaped, shoots medium-thick. Leaves outheld, moderately reflexed, folded, with sub-acuminate tip. *Emerging leaves* *Dark Citrine* (L. 6, Pl. 15), *immature growing leaves* *Citrine* (L. 6, Pl. 14), turning *Rainette Green* (L. 3, Pl. 14).

Inflorescence large, *Cosse Green* (L. 2, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; stalk inserted squarely; *cavity absent to slight*; ventral shoulder equal and higher than dorsal, ventral shoulder slightly rising and then rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex

rounded ; skin medium-thick, Apricot Yellow (L. 4, Pl. 10) ; dots medium, moderately distant ; flesh firm to soft, Primuline Yellow (L. 5, Pl. 10) ; densely *fibrous, fibre long and coarse* ; flavour delightful ; taste very sweet ; juice fairly plentiful.

Stone oblong oval, covered with long, coarse fibre *all over, veins parallel, slightly depressed*.

Fruit quality good ; bearing heavy, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium to fair.

VARIETY—*Mallayya Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with acuminate tip, slightly reflexed and folded. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Saccardos Umber* (L. 9, Pl. 14).

Inflorescence large, Rose Dore (G. 9, Pl. 3), densely puberulent, *stamens longer than and parallel to pistil*, staminodes poorly developed.

Fruit *very large, broadly oval* ; base rounded ; stalk inserted squarely ; *cavity absent* ; beak a point ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; *sinus slight to absent* ; apex rounded ; dots large, moderately distant ; skin medium-thick, leathery, smooth, Mustard Yellow (L. 3, Pl. 9) ; flesh soft, *fibreless*, Cadmium Yellow (J. 7, Pl. 9) ; flavour unpleasant ; taste sour, moderately juicy.

Stone oblong, covered with medium, moderately abundant, soft fibre all over, *veins forked and prominently raised*.

Fruit quality poor ; bearing poor, mid-season ; badly susceptible to hoppers and winds ; keeping quality poor.

VARIETY—*Pear* (Mangalore).

SYNONYM—Nil.

Tree large, top dome shaped, shoots medium-thick. Leaves outheld, with acuminate tip, slightly reflexed, folded and wavy. *Emerging leaves Orange Citrine* (K. 7, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Sulphine Yellow (K. 3, Pl. 12), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit small, *ovate oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus shallow* ;

apex rounded; skin thin, Primuline Yellow (L. 5, Pl. 10); dots medium, moderately distant; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour aromatic; taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and grooved*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to hoppers and resistant to winds; keeping quality medium to good.

VARIETY—*Bobbili Chinnakayalu* (Bobbili).

SYNONYM—Nil.

Tree medium, top oval, shoots thick. Leaves outheld, slightly reflexed and folded, with sub-acuminate tip. *Emerging leaves Medal Bronze* (L. 9, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Grape Green* (K. 3, Pl. 13).

Inflorescence medium, Viridine Green (L. 1, Pl. 11), moderately puberulent, *stamens equal and oblique to pistil*; staminodes poorly developed.

Fruit medium, *ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots large, distant; flesh firm, Light Cadmium (L. 6, Pl. 9), *moderately fibrous, fibre medium and coarse*; flavour aromatic to slightly turpentine, taste moderately sweet; juice fairly plentiful.

Stone oblong oval, covered with medium, coarse fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, yielding two crops, mid and off-season; moderately resistant to winds and hoppers; keeping quality fair.

VARIETY—*Amini* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, moderately to strongly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 32); *immature growing leaves Verona Brown* (G. 9, Pl. 14), *turning Rainette Green* (L. 3, Pl. 13).

Fruit large, *oval*; base slightly flattened and extended; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve;

beak missing; *sinus slight*; apex rounded; skin medium-thick, Mustard Yellow (L. 3, Pl. 9); flesh soft, Cadmium Yellow (J. 7, Pl. 9), *moderately fibrous, fibre medium and soft*; flavour acid, taste sour; moderately juicy.

Stone oblong, covered with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality poor as a dessert fruit but good for culinary purposes, bearing medium, mid-season; susceptible to winds and fairly resistant to hoppers; keeping quality poor.

VARIETY—*Pedda Suvarnarekha* (Kadiyam).

SYNONYM—*Pulepalli Suvarnarekha*.

Tree medium, top oval, shoots medium-thick. Leaves outheld with acuminate tip, moderately reflexed and twisted and folded. *Emerging leaves Ecu Olive* (L. 5, Pl. 14), *immature growing leaves Cendre Green* (H. 12, Pl. 17), *turning Roods Brown* (D. 11, Pl. 14).

Inflorescence large, Acajou Red (K. 3, Pl. 6), moderately puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *large, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight to shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; apex rounded; skin thick, Primuline Yellow (L. 6, Pl. 10) with a blush of Scarlet Red (K. 10, Pl. 3) on the shoulders; dots medium, close; flesh soft, *fibreless*, Empire Yellow (K. 3, Pl. 9); flavour delightful; taste sweet; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing poor, mid-season to early season; badly susceptible to winds and moderately resistant to hoppers; keeping quality medium to poor.

VARIETY—*Mokkurva* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 2, Pl. 14), *immature growing leaves Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder rounded; beak distinct; *sinus absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small and close; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour delightful; taste sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality good; bearing heavy, mid-season; resistant to winds and hoppers; keeping quality good.

VARIETY—*Suvarnarekha* (Alamanda).

SYNONYM—*Sundri*, *Swarnarekha*.

Tree large, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning Dresden Brown* (L. 10, Pl. 14).

Inflorescence large, Corinthian Red (L. 2, Pl. 5), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium, ovate oblong*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, light Cadmium (L. 6, Pl. 9), dots small, close; flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour pleasant; taste sweet; juice abundant.

* Stone oblong oval, covered with short, soft fibre all over, *veins parallel and slightly to prominently raised*.

Fruit quality good; bearing heavy; early; moderately resistant to hoppers and winds; keeping quality medium to good.

VARIETY—*Olour* (Taliparamba).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves outheld with sub-acuminate tip, moderately reflexed and folded. *Emerging leaves Buffy Citrine* (L. 8, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14).

Inflorescence large, coloured Amber Brown (C. 19, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oval*, base rounded, stalk inserted squarely, *cavity absent*; ventral shoulder broader and level with dorsal,

ventral shoulder rounded ; dorsal shoulder ending in a long curve ; beak a point ; apex rounded ; *sinus slight* ; skin thick, Capucine Yellow (K. 8, Pl. 10) ; dots large, distant ; flesh soft, *moderately fibrous, fibre medium, soft* ; Capucine Yellow (L. 8, Pl. 9) ; flavour aromatic ; taste medium sweet to insipid ; juice abundant.

Stone oblong oval ; covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing heavy, very early ; moderately resistant to winds and hoppers, keeping quality fair to poor.

VARIETY—*Bhaggunda* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, with acuminate tip, slightly reflexed and folded. *Emerging leaves Medal Bronze* (L. 9, Pl. 15), *immature growing leaves Diamine Brown* (L. 4, Pl. 8), *turning Prouts Brown* (A. 10, Pl. 15).

Inflorescence large, Tyrian Pink (A. 4, Pl. 4), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, oval*, base rounded ; stalk inserted squarely ; *cavity none to slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent, *sinus slight* ; apex rounded ; skin medium-thick, Orange Cinnamon (D. 8, Pl. 10) ; dots medium, moderately distant, flesh soft, Lemon Chrome (L. 4, Pl. 9) ; *moderately fibrous, fibre medium and coarse* ; flavour pleasant ; taste sweet ; juice abundant.

Stone oblong, covered with medium and coarse fibre all over ; *veins parallel and slightly depressed*.

Fruit quality medium to good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality fair.

VARIETY—*Assalu Ganneru* (Alamanda).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mineral Green* (L. 3, Pl. 20), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence small, Cerro Green (L. 6, Pl. 22), sparsely puberulent, *style equal and parallel to stamens*, staminodes poorly developed.

Fruit *small, ovate* ; base rounded and slightly extended ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak a point ; apex rounded ; *sinus slight* ; skin thin, smooth

membranous, Light Cadmium (L. 6, Pl. 9); dots small, close; flesh firm, Capucine Yellow (L. 8, Pl. 9); *fibreless*; mildly pleasant; moderately sweet; juice scanty.

Stone oblong oval, fibre short and soft all over and medium on the ventral edge, *veins forked and prominently raised*.

Fruit quality medium to good; bearing medium, mid to late season; resistant to sooty mould and winds; keeping quality good.

VARIETY—*Nazukpasand* (Kodur).

SYNONYM—Nil.

Tree small, top rounded, shoots slender. Leaves upheld with sub-acuminate tip, moderately to strongly reflexed and folded. *Emerging leaves Lime Green* (L. 2, Pl. 12), *immature growing leaves Tawny* (A. 9, Pl. 13), *turning Tawny Olive* (L. 8, Pl. 13).

Inflorescence medium, Saccardos Umber (L. 9, Pl. 4), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oval*; base rounded and extended; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, dorsal shoulder rounded, ventral shoulder sloping; beak a point; *sinus absent*; apex broadly pointed; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, close; flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour pleasant; taste sweet to moderately sweet; juice abundant to fairly plentiful.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium to good; bearing heavy, mid-season; moderately resistant to winds and susceptible to hoppers; keeping quality medium to fair.

VARIETY—*Creeping* (Trichur).

SYNONYM—Nil.

Tree small, dome shaped, shoots slender. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging and immature growing leaves Lime Green* (K. 1, Pl. 12), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence small, Cinnamon Brown (H. 10, Pl. 14), sparsely puberulent, *pistil equal and parallel to stamens*, staminodes well developed.

Fruit *small, ovate*; base slightly flattened; stalk inserted squarely, *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight*; skin smooth, medium-thick, leathery, Cadmium

Yellow (L. 7, Pl. 9) with a blush of Cadmium Orange (L. 9, Pl. 10) on shoulders; dots small and close; flesh firm. Capucine Yellow (L. 8, Pl. 10); *moderately fibrous, fibre medium and soft*; flavour pleasant, taste sweet, juice moderately abundant.

Stone oval, covered with medium, moderately abundant, soft fibre all over; *veins forked and slightly depressed*.

Fruit quality medium to good; bearing heavy, mid-season; moderately resistant to hoppers and resistant to winds; keeping quality good.

VARIETY—*Mukri* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld with acuminate tip, slightly reflexed, wavy, twisted and folded. *Emerging leaves Liver Brown* (L. 1, Pl. 15), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 20), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity slight*; shoulder equal, ventral slightly higher than dorsal and rounded; dorsal shoulder ending in moderate curve; beak absent; *sinus absent*; apex rounded; skin smooth, medium-thick, leathery, Yellow Ochre (L. 7, Pl. 11); dots small, close; flesh soft, *fibrous*, Cadmium Orange (L. 10, Pl. 9); juice moderately abundant; flavour pleasant; taste moderately sweet; juice abundant.

Stone oblong oval, covered with medium, soft fibre all over; *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium to poor.

VARIETY—*Appayya Shetty* (Kaup).

SYNONYM—*Appaya Shetty*.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 13).

Inflorescence medium, Light Viridine Green (L. 1, Pl. 11), moderately puberulent, *stamens longer than and oblique to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base slightly flattened; stalk inserted squarely, *cavity shallow*; ventral shoulder equal and level with dorsal, ventral

shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus shallow* ; apex rounded ; skin membranous, Lemon Chrome (L. 4, Pl. 9), with a blush of Scarlet Red (K. 11, Pl. 3) on shoulders ; dots large and moderately distant ; flesh firm, Scarlet Red (L. 6, Pl. 1), *moderately fibrous, fibre medium soft* ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oblong oval ; covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality fair.

VARIETY—*Bandarubondam* (Kadiyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cadmium* (E. 10, Pl. 9), *immature growing leaves Mignonette Green* (L. 12, Pl. 56), *turning Prussian Red* (J. 9, Pl. 6).

Inflorescence medium, Etruscan Red (K. 7, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak absent ; *sinus shallow to deep* ; apex broadly rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots medium, moderately distant ; flesh firm, *fibreless*, Primuline Yellow (L. 5, Pl. 9) ; flavour pleasant, moderately sweet to flat ; juice abundant.

Stone oval, covered with soft and short fibre all over, *veins forked and slightly raised*.

Fruit quality medium to poor ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium to poor.

VARIETY—*Innanje* (Kaup).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, with sub-acuminate tip, moderately reflexed and folded. *Emerging leaves Oil Green* (L. 4, Pl. 22), *immature growing leaves Oil Green* (L. 3, Pl. 22), *turning Spinach Green* (L. 4, Pl. 23).

Inflorescence medium, Orange Vinaceous (L. 8, Pl. 4), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large*, ovate, sub-reniform; base slightly flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus slight to shallow*; apex rounded; skin thick, Capucine Yellow (L. 8, Pl. 9); dots medium, moderately distant; flesh firm to meaty, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour aromatic; taste moderately sweet; juice moderately abundant.

Stone oblong oval; covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly resistant to hoppers and winds; keeping quality good.

VARIETY—*Palura* (Kaup).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Sudan Brown* (L. 11, Pl. 14), *immature growing leaves Amber Brown* (A. 10, Pl. 4), *turning Fawn Colour* (A. 7, Pl. 13).

Inflorescence medium, Rose Dore (J. 9, Pl. 13), sparsely puberulent, *stamens longer than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base rounded and extended; stalk inserted squarely; *cavity slight to absent*; shoulders equal and level with dorsal, ventral shoulder rounded; dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex rounded; skin medium-thick, smooth, leathery. Capucine Yellow (L. 8, Pl. 9); dots medium, distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 19); flavour pleasant, taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good; bearing medium and late; moderately susceptible to hoppers and resistant to winds.

VARIETY—*Ulliar* (Kaup).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (L. 3, Pl. 13), *immature growing leaves Pyrite Green* (L. 4, Pl. 13), *turning Olive Lake* (L. 5, Pl. 13).

Inflorescence medium, Citron Green (J. 1, P. 20), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium, oval*; base rounded and obliquely extended; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus absent*; apex broadly pointed, skin medium-thick, Light Cadmium (J. 6, Pl. 9); dots medium, close; flesh firm, *fibreless*, Deep Chrome (L. 7, Pl. 10); flavour aromatic, taste moderately sweet; juice fairly abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Irubhogam* (Salem).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Forest Green* (L. 11, Pl. 15), *immature growing leaves Brick Red* (H. 11, Pl. 7), turning *Prussian Red* (J. 10, Pl. 6).

Inflorescence large, Coral Red (F. 10, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to big, ovate*; base rounded; stalk inserted squarely; *cavity shallow*, shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point; *sinus absent*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots small, close; flesh firm, Scarlet Red (L. 6, Pl. 1), *moderately fibrous, fibres medium and soft*; flavour pleasant; taste sweet. Juice moderately abundant.

Stone oblong oval; covered with medium, soft fibre all over; *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, late and off-season; moderately susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Bennet Alphanso* (Uchila).

SYNONYM—*Bennet Appus*.

Tree large, top dome shaped, shoots medium-thick. Leaves outheld, with acuminate tip, moderately reflexed and folded. *Emerging leaves Ecu Olive* (L. 4, Pl. 14), *immature growing leaves Ecu Olive* (L. 5, Pl. 14), turning *Verona Brown* (G. 9, Pl. 14).

Inflorescence large, Etruscan Red (L. 9, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak slight but distinct; *sinus slight*; apex rounded; skin *medium-thick*. Capucine Yellow (L. 8, Pl. 11); dots small, close; flesh firm, Capucine Yellow (I. 8, Pl. 10); *fibreless*; flavour very pleasant; taste very sweet; juice abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins slightly forked and raised*.

Fruit quality good to very good; bearing heavy, early; moderately resistant to winds and hoppers; keeping quality medium to good.

VARIETY—*Fernandin* (Mangalore).

SYNONYM—*Fernandino*.

Tree large, top rounded, shoots thick. Leaves outheld with acuminate tip, strongly reflexed, slightly crinkled, twisted and folded. *Emerging and immature growing leaves Olive Lake* (L. 6, Pl. 14), *turning Dresden Brown* (L. 7, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 22), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, obliquely oval*; base obliquely flattened; stalk inserted squarely; *cavity slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak a point; *sinus absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 9), with a blush of Jasper Red (J. Lo, Pl. 3) on shoulders; dots medium, moderately distant; flesh meaty, *fibreless*, Lemon Chrome (L. 4, Pl. 9); flavour pleasant, taste very sweet; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed to grooved*.

Fruit quality very good to best; bearing medium, mid to late season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Gundra Banganapalli* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens shorter and oblique to pistil*, staminodes poorly developed.

Fruit *medium*, *oval*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex rounded; skin thick, Cadmium Yellow (L. 7, Pl. 19); dots small, distant; flesh firm, *fibreless* Light Cadmium (L. 6, Pl. 9), flavour pleasant; taste medium, sweet; juice moderately abundant.

Stone oblong oval, covered with long, soft fibre all over, *veins parallel and prominently raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Haffez-be-gola* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Hellebore Green* (L. 5, Pl. 15), *turning Mignonette Green* (L. 1, Pl. 22).

Inflorescence medium, Spinel Red (K. 3, Pl. 5), densely pubescent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base slightly flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak a point, *sinus shallow*, apex broadly rounded; skin medium-thick, Empire Green (L. 6, Pl. 16); dots medium, close; flesh soft, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour delightful; taste sweet; juice abundant.

Stone oblong oval, covered with sparse, short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers, keeping quality medium.

COHORT IV—CLASS I.

Fruits intermediate with a distinct to prominent beak. Leaves with acute tip and flat.

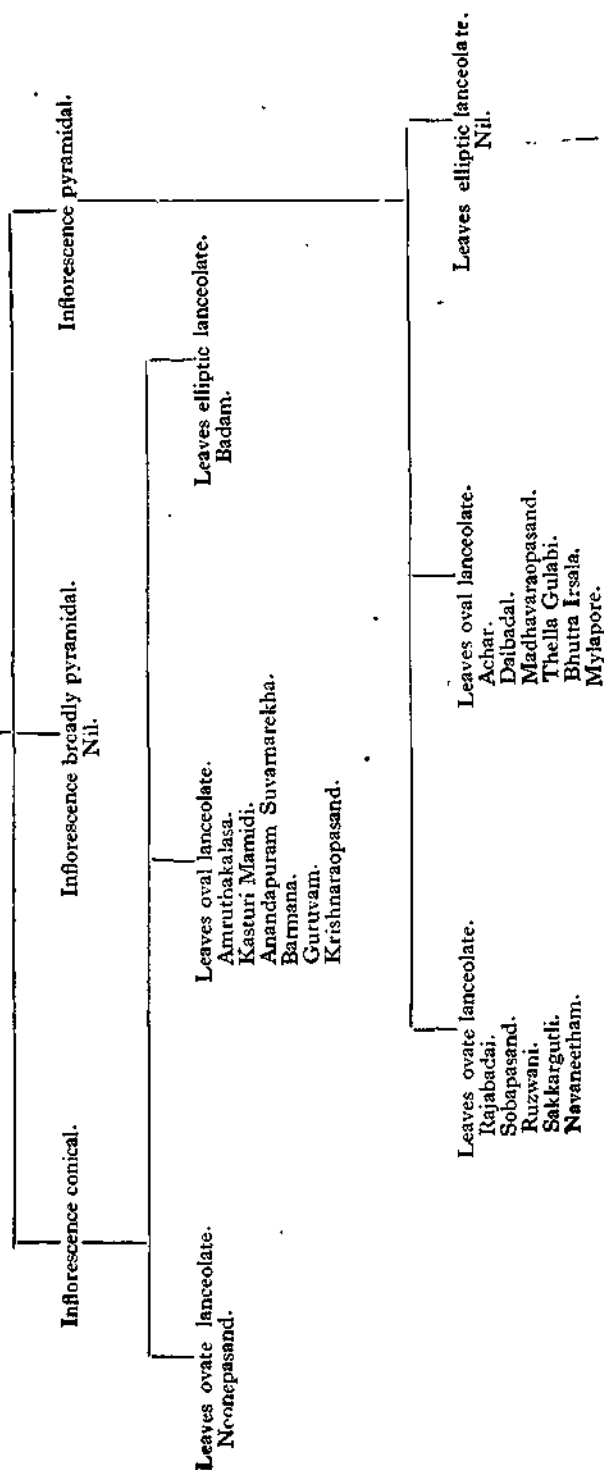


PLATE XXIV.

COHORT IV—CLASS I.

Fruits intermediate with a distinct to prominent beak. Leaves with acute tip and flat.

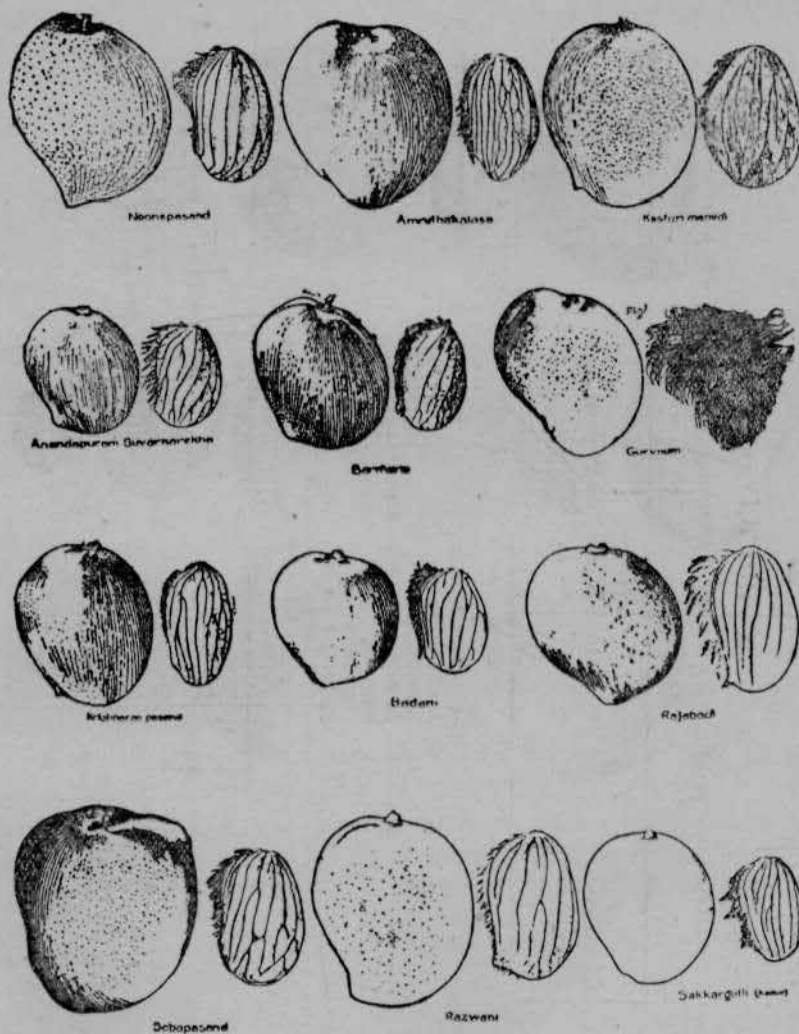
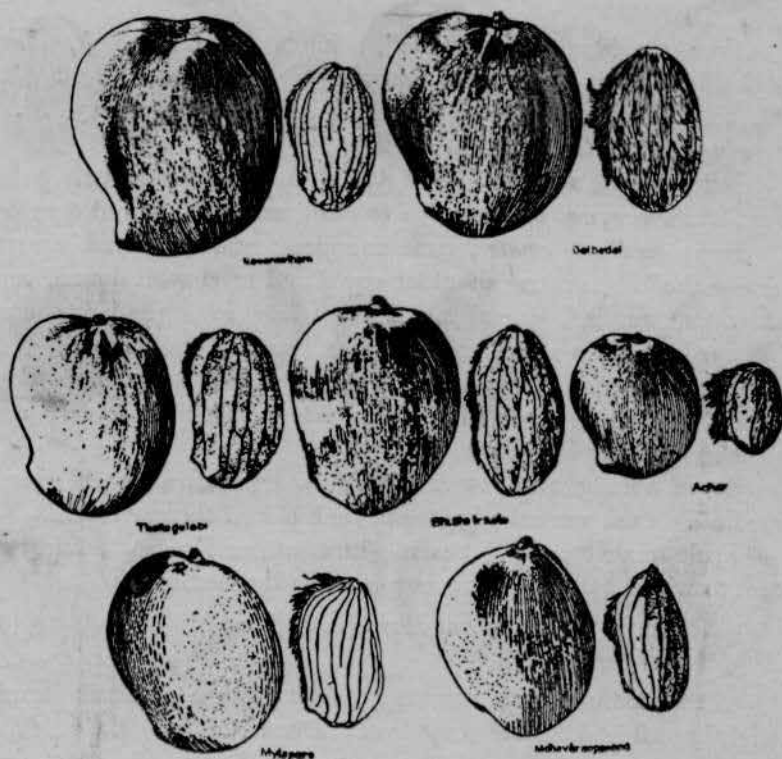


PLATE XXIV—cont.



B

X. VARIETY DESCRIPTIONS

COHORT IV—CLASS I

Fruits intermediate with a distinct to prominent beak.

Leaves with acute tip and flat.

VARIETY—*Noonepasand* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 20), *immature growing leaves Mineral Green* (L. 3, Pl. 20), *turning Lettuce Green* (L. 4, Pl. 20).

Inflorescence medium, Brick Red (J. 6, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate*; base rounded; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus slight*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots large, distant; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour pleasant; taste very sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; fairly resistant to winds and hoppers; keeping quality medium.

VARIETY—*Amruthakalasa* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, slightly reflexed. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Clove Brown* (A. 11, Pl. 16), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence large, Pomegranate Purple (L. 3, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus absent*; apex broadly pointed; skin medium-thick, Primuline Yellow (L. 5, Pl. 9); dots small, moderately distant; flesh firm, *fibreless*, Primuline Yellow (L. 5, Pl. 10); flavour pleasant, taste sweet; juice fairly plentiful.

Stone oblong oval; covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Kasturi Mamidi* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender, Leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (K. 3, Pl. 13), *immature growing leaves Hellebore Green* (L. 3, Pl. 15), turning *Grape Green* (L. 2, Pl. 14).

Inflorescence large, *Lumier Green* (J. 1, Pl. 12), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, ovate ; base rounded ; stalk inserted squarely ; cavity absent ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; sinus slight ; apex rounded ; skin medium-thick, *Primuline Yellow* (L. 5, Pl. 10) ; dots small, moderately distant ; flesh soft, fibreless, *Primuline Yellow* (L. 6, Pl. 10) ; flavour aromatic ; taste medium sweet ; juice moderately abundant.

Stone oblong oval ; covered with short, soft fibre all over ; veins forked and slightly depressed.

Fruit quality medium, bearing medium, mid-season, moderately resistant to winds and hoppers ; keeping quality fair to medium.

VARIETY—*Anandapuram Suvarnarekha* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15).

Inflorescence medium, *Pansy Purple* (L. 3, Pl. 55), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit small, ovate ; base rounded and slightly extended ; stalk inserted squarely ; cavity absent ; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a moderate curve ; beak mammiform ; sinus slight ; apex rounded ; skin medium-thick, *Cadmium Yellow* (L. 7, Pl. 9) ; dots small, close ; flesh firm, fibreless, *Light Cadmium* (L. 6, Pl. 9) ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oval, covered with short, coarse fibre all over, veins forked and slightly depressed.

Fruit quality medium ; bearing medium to heavy, late ; resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Barmana* (Moodabidri).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mars Brown* (A. 12, Pl. 15), *immature growing leaves Pyrite Yellow* (L. 4, Pl. 13), *turning Dresden Brown* (L. 10, Pl. 14).

Inflorescence medium, Apricot Buff (A. 11, Pl. 4); moderately puberulent; *stamens equal and parallel to pistil*; staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak broad and mammiform; *sinus slight*; apex rounded; skin thin, coloured Light Cadmium (L. 6, Pl. 9); dots medium, moderately distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9), flavour pleasant, moderately sweet to flat, juice scant to fairly abundant.

Stone oval, covered with short, soft fibre all over, veins forked and *slightly raised*.

Fruit quality medium to poor; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium to poor.

VARIETY—*Guruvam* (Bobbili).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence large, Yellow Green (L. 3, Pl. 19), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate oblique*; base obliquely flattened; ventral shoulder equal and higher than dorsal; stalk inserted squarely; *cavity slight*, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, Pl. 10); dots medium and distant; flesh soft, Yellow Ochre (L. 7, Pl. 11); *densely fibrous, fibre long and coarse*; flavour delightful; taste very sweet; juice fairly plentiful.

Stone oblong oval, covered with long, coarse fibre all over, *veins parallel and slightly raised*.

Fruit quality good; bearing medium, mid-season; fairly resistant to hoppers and winds; keeping quality medium.

VARIETY—*Krishnaraopasand* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Hellebore Green* (L. 5, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mignonette Green* (L. 1, Pl. 22).

Inflorescence medium, Dark Vinaceous (H. 8, Pl. 15), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base rounded and slightly extended; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus none*; apex rounded; skin thin, membranous, Apricot Yellow (K. 4, Pl. 9); flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant, taste sweet; juice moderately abundant.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium to good; bearing medium, mid-season; keeping quality good.

VARIETY—*Badam*. (Bobbili).

SYNONYM—Nil.

Tree large, top rounded, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Hellebore Green* (L. 5, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mignonette Green* (L. 1, Pl. 22).

Inflorescence medium, Light Jasper (J. 9, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, oval*; base rounded and extended; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots small, close; flesh soft; *fibreless*, Orange Citrine (I. 9, Pl. 9); flavour pleasant; taste sweet; juice scant to fairly abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium to good; bearing medium and late; keeping quality medium to good.

VARIETY—*Rajabadai* (Kasimkota).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Buffy Citrine* (L. 8, Pl. 14), *turning Isabella Colour* (L. 7, Pl. 14).

Inflorescence medium, Testaceous (F. 10, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, ovate; base slightly flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus shallow* to deep; apex rounded; skin thin, Cadmium Yellow (L. 7, Pl. 9); dots small, close, flesh firm, Apricot Yellow (F. 5, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour pleasant; taste sour; juice fairly abundant.

Stone oblong oval; covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Sobapasand* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Lettuce Green* (L. 2, Pl. 21).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens and style equal and parallel*, staminodes poorly developed.

Fruit large, ovate; base flattened; stalk inserted squarely; *cavity shallow*; ridging prominent on the dorsal shoulder; beak absent; *sinus slight*; shoulders equal and level and rounded; apex broadly rounded; dots medium, distant; skin thin, smooth, membranous, Primuline Yellow (L. 5, Pl. 10); flesh soft, Light Cadmium (L. 6, Pl. 9); *fibrous close to the stone*; flavour slightly turpentine; taste moderately sweet; juice abundant.

Stone oval, covered with medium, sparse fibre all over, *veins forked and slightly raised*.

Fruit quality poor; bearing poor, mid-season; moderately susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Ruzwani* (Salem).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1,

Pl. 14), immature growing leaves Grape Green (L. 2, Pl. 14), turning Ecrú Green (L. 5, Pl. 13).

Inflorescence medium, Coral Pink (I. 9, Pl. 3), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong; base slightly flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus shallow*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots small, close; flesh soft to firm, fibreless, Cadmium Yellow (L. 7, Pl. 9); flavour pleasant; taste sweet; juice abundant.

Stone oblong oval; covered with short, soft fibre all over, *veins forked and lightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Sakkargutli* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Light Brownish Olive* (L. 11, Pl. 15), immature growing leaves Orange Citrine (L. 7, Pl. 15) turning Buffy Brown (G. 10, Pl. 14).

Inflorescence medium, Light Jasper Red (J. 9, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, ovate; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a moderate curve; beak distinct to slightly prominent; *sinus slight*; apex broadly pointed; skin thin, Cadmium Yellow (L. 7, Pl. 9); dots medium, moderately distant; flesh soft, fibreless, Primuline Yellow (L. 6, Pl. 10); flavour mildly pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Navaneetham* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), immature growing leaves Deep Chrysolite Green (L. 2, Pl. 13), turning Mars Brown (A. 12, Pl. 15)

Inflorescence medium, Spinel Red (K. 3, Pl. 5), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *large ovate*; base flattened; stalk inserted squarely; *cavity shallow to deep*; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus shallow*; apex broadly rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots medium, distant; flesh firm, *fibreless*, Cadmium (L. 6, Pl. 9); flavour mildly pleasant; taste flat; juice abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality poor; bearing poor, mid-season; fairly susceptible to winds and hoppers; keeping quality medium to poor.

VARIETY—*Achar* (Siruvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, leaves out-held, slightly reflexed. *Emerging leaves Cinnamon Brown* (K. 1, Pl. 14), *immature growing leaves Antique Brown* (I. 9, Pl. 14), *turning Buffy Citrine* (L. 8, Pl. 14).

Inflorescence medium, Citron Green (K. 1, Pl. 20), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small to medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus slight to shallow*; apex rounded; skin medium-thick, Light Cadmium (K. 6, Pl. 9); dots medium, close; flesh soft, Capucine Yellow (L. 8, Pl. 9); *slightly fibrous, fibre medium and coarse*; flavour mildly pleasant; taste medium sweet; juice fairly abundant.

Stone oval, covered with short, coarse fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium to poor, bearing medium, mid-season, resistant to winds and hoppers; keeping quality fair to medium.

VARIETY—*Dalbada* (Banganapalli).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Amber Brown* (A. 9, Pl. 14), *turning Sudan Brown* (D. 9, Pl. 14).

Inflorescence medium, Lumier Green (J. 1, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base slightly flattened and extended; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight*; apex rounded; skin thick; Primuline Yellow (L. 5, Pl. 10); dots medium, moderately distant; flesh soft, *fibreless*, Empire Yellow (J. 4, Pl. 10); flavour delightful; taste sweet; juice moderately abundant.

Stone oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Madhavaopasand* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed; *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Isabella Colour* (K. 6, Pl. 13), turning Sulphine Yellow (K. 3, Pl. 12).

Inflorescence medium, Corinthian Red (K. 2, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base tapering; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus none*; apex broadly pointed; skin medium-thick, leathery, Primuline Yellow (L. 5, Pl. 9); dots small, distant; flesh meaty, *fibreless*, Lemon Chrome (L. 4, Pl. 9); flavour delightful; taste very sweet; juice moderately abundant.

Stone oval, covered with scant and short fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium and mid-season; resistant to winds and hoppers; keeping quality very good.

VARIETY—*Thella Gulabi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top dome-shaped, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 4), *immature growing leaves Hellebore Green* (L. 6, Pl. 15), turning *Medal Bronze* (H. 6, Pl. 15).

Inflorescence medium, Saccardos Umber (L. 10, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to large, ovate reniform*; base flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal; ventral shoulder rounded; dorsal shoulder ending in a moderate curve; beak absent; *sinus shallow*; apex rounded; skin thin, leathery to membranous, Capucine Yellow (K. 8, Pl. 10); taste moderately sweet.

Stone oblong oval; covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium; bearing medium to heavy; mid-season; fairly resistant to winds and hoppers; keeping quality medium.

VARIETY—*Bhutta Irsala* (Alamanda).

SYNONYM—Nil.

Tree medium, top oval, shoots thick. Leaves outheld, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Oil Green* (L. 2, Pl. 22), *turning Liver Brown* (L. 1, Pl. 15).

Inflorescence large, Lettuce Green (L. 4, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, ovate*; base flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus absent*; apex rounded; skin thick, Primuline Yellow (L. 6, Pl. 10); dots medium, close; flesh soft, *fibreless*, Apricot Yellow (J. 6, Pl. 10); flavour turpentine; taste medium sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality fair.

VARIETY—*Mylapore* (Nuzvid).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Ochre Red* (B. 11, Pl. 6), *turning Saccardos Umber* (L. 9, Pl. 14).

Inflorescence medium, Geranium Pink (H. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate oblique*; base obliquely flattened; stalk inserted squarely; *Cavity slight*; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak broadly mammiform; *sinus shallow*; apex rounded; skin thin, membranous, Capucine Yellow (K. 8, Pl. 10); dots medium, close; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *fibreless*, flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

COHORT IV—CLASS II

Fruits intermediate with distinct to prominent beak. Leaves with acute tip and slightly or strongly folded.

VARIETY—*Amrutharasayanam* (Alamanda).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed and slightly folded. *Emerging and immature growing leaves Ecru Olive* (L. 4, Pl. 14).

Inflorescence medium, Light Coral Red (E. 10, Pl. 4), densely puberulent, *stamens and pistil equal and parallel*, staminodes poorly developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak slightly prominent; apex rounded; *sinus slight*; skin smooth, medium-thick, leathery, Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh soft; Primuline Yellow (L. 6, Pl. 10) *moderately fibrous*; fibre *medium, soft*; flavour pleasant; taste very sweet; juice abundant to fairly plentiful.

Stone oblong oval, covered with medium, moderately abundant, soft fibre all over, *veins forked and grooved*.

Fruit quality good; bearing heavy, mid-season; resistant to hoppers but badly affected by winds; keeping quality medium to poor.

VARIETY—*Asakapalli Baramasi* (Alamanda).

SYNONYM—*Pulla Baramasi*.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Ecru Olive* (L. 4, Pl. 14), turning Citrine (L. 6, Pl. 14).

Inflorescence medium, Saccardos Umber (L. 9, Pl. 14), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large, ovate*, base rounded; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak broadly mammiform; *sinus slight*; skin medium-thick, leathery, Light Cadmium (L. 6, Pl. 9); dots small and close; flesh firm, *fibreless*, Deep Chrome (K. 7, Pl. 10); flavour acid; taste sour; juice scant to fairly abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality poor as a dessert fruit and medium as a culinary fruit ; bearing medium, late ; keeping quality medium to good.

VARIETY—*Seethaphal Gola* (Siruvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Sudan Brown* (H. 8, Pl. 14), *immature growing leaves Dresden Brown* (B. 10, Pl. 13), *turning Orange Citrine* (K. 9, Pl. 14).

Inflorescence medium, Light Corinthian Red (H. 9, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate* ; base slightly flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Capucine Yellow (L. 8, Pl. 10) ; dots small, close ; flesh soft, *fibreless*, Apricot Yellow (K. 4, Pl. 9) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; susceptible to hoppers and fairly resistant to winds ; keeping quality medium.

VARIETY—*Thella Ayodhya* (Chandragiri).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 4), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Acajou Red (K. 4, Pl. 6), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, obliquely oval* ; base rounded to obliquely flattened and extended ; stalk inserted obliquely ; *cavity absent* ; ventral shoulder higher and broader than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve ; beak prominent ; *sinus slight* ; apex broadly pointed ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots medium, moderately distant ; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; *flavour delightful* ; taste very sweet ; juice moderately abundant

Stone oblong, covered with short, coarse fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium to poor, mid-season; moderately resistant to hoppers and winds; keeping quality medium to good.

VARIETY—*Kachura* (Moodabidri).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Maddar Brown* (L. 7, Pl. 7), *turning Olive Red* (L. 11, Pl. 6).

Inflorescence medium, Terra Cotta (B. 10, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong elliptic*; base broadly pointed, and slightly extended; stalk inserted squarely; *cavity absent*; shoulders equal and level, both sloping; beak mammiform; apex broadly pointed; *sinus slight*; skin rough, medium-thick, leathery, Capucine Yellow (L. 8, Pl. 10); dots medium and close; flesh firm, Deep Chrome (K. 7, Pl. 10); *slightly fibrous near the stone*; taste sour; moderately juicy.

Stone oblong, covered with short, coarse fibre all over; *veins slightly forked and raised*.

Fruit quality poor; bearing medium, late; resistant to hoppers and winds; keeping quality good.

VARIETY—*Rasalot* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging and immature growing leaves Lime Green* (K. 1, Pl. 12), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Cinnamon Brown (H. 10, Pl. 14), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small, close; flesh firm, fibreless, Primuline Yellow (L. 6, Pl. 10); *moderately fibrous*;

fibre medium and soft ; flavour pleasant ; taste medium sweet ; juice abundant.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing poor, early, moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Chukla* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Isabella Colour* (L. 6, Pl. 13), *turning Grape Green* (L. 2, Pl. 14).

Inflorescence medium, Mineral Green (L. 3, Pl. 20), densely puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *large, ovate* ; base slightly flattened and extended ; stalk inserted squarely ; *cavity slight* ; shoulders equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak prominent ; apex broadly rounded ; *sinus shallow*, skin smooth, tough, Deep Chrome (L. 7, Pl. 10) ; dots medium and close ; flesh soft, *fibreless*, Apricot Yellow (K. 5, Pl. 9) ; mildly pleasant ; moderately juicy.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium. ; bearing poor and mid-season ; moderately susceptible to hoppers and winds ; keeping quality fair.

VARIETY—*Manoranjan* (Kodur).

SYNONYM—Nil.

Tree small, top rounded, shoots medium-thick, Leaves outheld, slightly reflexed and folded. *Emerging leaves Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence small, Walnut Brown (A. 11, Pl. 6), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate, oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight to shallow* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak mammiform ; *sinus slight to shallow* ; apex rounded ; skin medium-thick, Capucine Yellow (L. 8, Pl. 10) ; dots small, close ; flesh firm to hard, *fibreless*,

Deep Chrome (L. 7, Pl. 10) ; flavour mildly pleasant ; taste medium sweet ; juice scant to fairly abundant.

Stone oblong oval ; covered with short, soft fibre all over ; *veins parallel and slightly raised*.

Fruit quality medium ; bearing medium to poor, mid-season ; resistant to winds and highly susceptible to hoppers ; keeping quality very good.

VARIETY—*Savera* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 22).

Inflorescence medium, Spinel Red (K. 3, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *small, ovate oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity none* ; ventral shoulder equal and level with dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak mammiform ; *sinus shallow* ; apex rounded ; skin thin, Cadmium Yellow (L. 7, Pl. 9) ; dots medium, moderately distant ; flesh firm ; *fibreless*, Capucine Yellow (L. 8, Pl. 9) ; flavour pleasant ; taste sweet ; moderately juicy.

Stone oblong oval, covered with short, coarse fibre all over ; *veins forked and slightly raised*.

Fruit quality medium to good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Shagapu Goa* (Tanjore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Buffy Citrine* (L. 8, Pl. 14), *immature growing leaves Citrine* (L. 6, P. 14).

Inflorescence medium, Orange Vinaceous (L. 8, Pl. 4), densely puberulent, *stamens equal and parallel to pistill*, staminodes well developed.

Fruit *medium, ovate* ; base slightly flattened and extended ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10), with

a blush of Jasper Red (D. 12, Pl. 4.) on shoulders; dots large, moderately distant; flesh soft, Primuline Yellow (L. 6, Pl. 10), *moderately fibrous, fibre medium and soft*; flavour pleasant; taste medium sweet; juice moderate to abundant.

Stone oval to oblong oval, covered with short, soft fibre all over and medium on the ventral edge; *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium.

VARIETY—*Panchadarakalasa* (Kadiyam).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Hellebore Green* (L. 4, Pl. 15).

Inflorescence medium, Saccardos Umber (D. 9, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus absent*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 10); dots medium, moderately distant; flesh soft, Light Cadmium (L. 6, Pl. 9), *fibrous, fibre medium and soft*; flavour delightful; taste very sweet; juice fairly plentiful.

Stone oblong oval, covered with medium, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality very good; bearing heavy, mid-season; moderately resistant to hoppers and winds; keeping quality medium.

VARIETY—*Sindhura* (Salem).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 12, Pl. 20), *immature growing leaves Mignonette Green* (L. 1, Pl. 22), *turning Ecrú Olive* (L. 4, Pl. 14).

Inflorescence medium, Maritus Yellow (K. 1, Pl. 11), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and slightly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight*; apex rounded; skin

medium-thick, Deep Chrome (L. 7, Pl. 10) ; dots medium, distant ; flesh firm, *fibreless*, Capucine Orange (L. 8, Pl. 11) ; flavour delightful ; taste sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over ; *veins slightly forked and grooved*.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality good.

COHORT IV—CLASS III

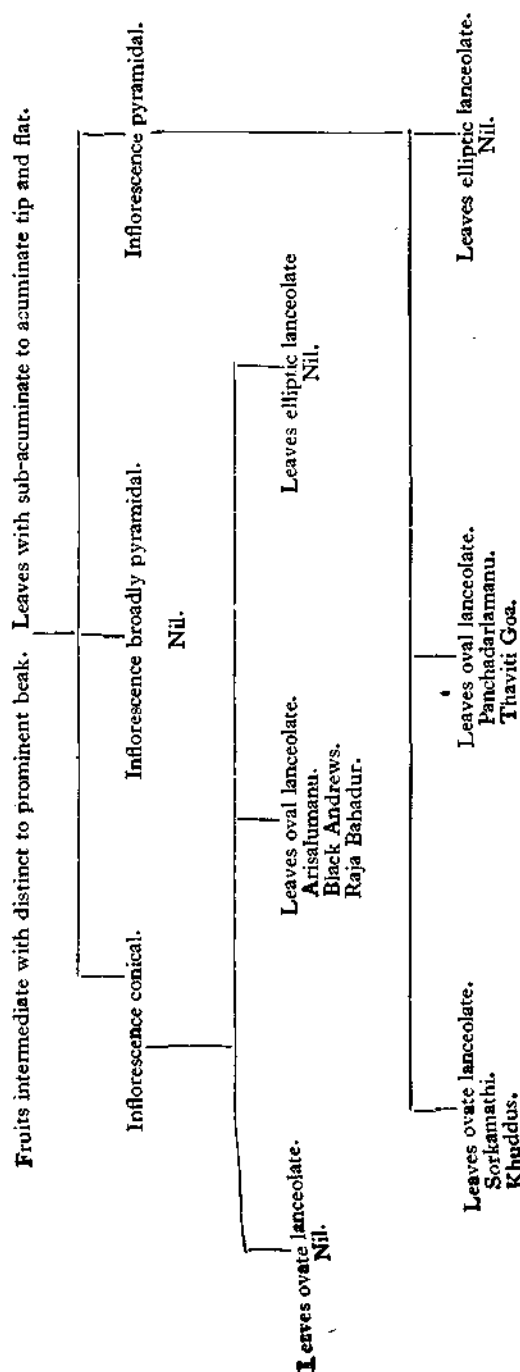
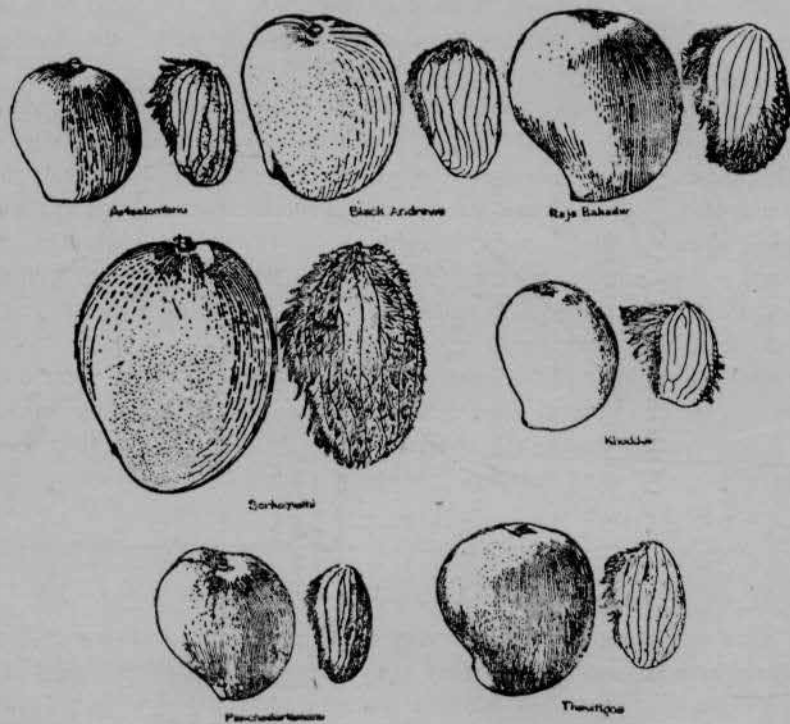


PLATE XXVI.

COHORT IV—CLASS III.

Fruits intermediate with distinct to prominent beak. Leaves with acuminate to sub-acuminate tip and flat.



COHORT IV—CLASS III

Fruits intermediate with distinct to prominent beak. Leaves with sub-acuminate to acuminate tip and flat.

VARIETY—*Arisalumanu* (Alamanda).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Oil Yellow* (L. 1, Pl. 15), *immature growing leaves Yellowish Citrine* (L. 2, Pl. 14), *turning Citrine* (L. 5, Pl. 14).

Inflorescence medium, Viridine Green (K. 2, Pl. 12), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruits *small, ovate*; base slightly flattened and extended; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak prominent, broadly mammiform; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small, distant; flesh soft; *fibreless*, Apricot Yellow (J. 5, Pl. 9); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong oval, covered with short, coarse fibre all over and medium on the ventral edge; *veins forked and prominently raised*.

Fruit quality medium; bearing poor, mid-season; fairly susceptible to winds and hoppers; keeping quality fair to poor.

VARIETY—*Black Andrews* (Kodur).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Forest Green* (L. 11, Pl. 15), *immature growing leaves Dark Purple* (L. 7, Pl. 56), *turning Ochre Red* (K. 9, Pl. 6).

Inflorescence medium to large, Shrimp Pink (A. 9, Pl. 3), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct to slightly prominent; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, moderately distant; flesh soft; *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste medium sweet; juice abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Raja Bahadur* (Kasimkota).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed, with sub-acuminate tip. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Olive Ochre (L. 7, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate, sub-reniform* ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak prominent ; *sinus shallow* ; apex rounded ; skin medium-thick, Light Cadmium Yellow (L. 5, Pl. 9) ; dots small, moderately distant ; flesh firm ; *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over ; *veins parallel and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Sorkamathi* (Salem).

SYNONYM—Nil.

Tree large, top rounded, shoots thick. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Pyrite Yellow* (L. 1, Pl. 20), *immature growing leaves Mineral Green* (L. 3, Pl. 20), *turning Ecrú Olive* (L. 4, Pl. 14).

Inflorescence medium, Mikado Brown (E. 9, Pl. 13), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, ovate* ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus slight* ; apex rounded ; skin thick, Capucine Yellow (K. 8, Pl. 10) ; dots small, close ; flesh soft ; Apricot Yellow (K. 4, Pl. 9) ; *moderately fibrous, fibre medium and soft* ; flavour acid ; taste sour ; juice moderately abundant.

Stone oval, covered with short, soft fibre all over; *veins forked and prominently raised*.

Fruit quality poor, fair for culinary use; bearing poor, mid-season; moderately resistant to hoppers and susceptible to winds; keeping quality medium.

VARIETY—*Khuddus* (Kodur).

SYNONYM—Nil.

Tree large, top dome-shaped, shoots thick. Leaves outheld, slightly reflexed, with acuminate tip. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Hellebore Green* (L. 5, Pl. 15), *turning Medal Bronze* (L. 8, Pl. 15).

Inflorescence large, Shrimp pink (A. 9, Pl. 3), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *small, ovate oblong to ovate*; base rounded; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded; dorsal shoulder ending in a long curve; beak mammiform; *sinus shallow*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10) with a blush of Light Coral Red (F. 11, Pl. 2) on shoulders; dots medium, moderately distant; flesh firm; *fibreless*, Capucine Yellow (L. 8, Pl. 10); flavour pleasant; taste medium sweet; juice moderate to abundant.

Stone oblong oval, covered with short, soft, sparse fibre all over and medium on the ventral edge; *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium and late; moderately susceptible to hoppers and winds; keeping quality good.

VARIETY—*Panchadarlamanu* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed with acuminate tip. *Emerging leaves Empire Green* (L. 7, Pl. 16), *immature leaves Artimesia Green* (A. 1, Pl. 14), *turning Amber Brown* (A. 9, Pl. 14).

Inflorescence medium, Lettuce Green (L. 3, Pl. 21), sparsely puberulent, *style equal and oblique to stamens*, staminodes poorly developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; apex rounded, *sinus slight*; skin smooth, medium-thick, leathery, Light Cadmium (L. 6, Pl. 9); dots medium, moderately distant; flesh firm; Light Cadmium (L. 6, Pl. 9);

moderately fibrous; fibre medium and soft; flavour pleasant; taste moderately sweet; juice fairly plentiful.

Stone oblong, covered with medium, moderately abundant, soft fibre all over; *veins forked and grooved.*

Fruit quality medium; bearing medium, mid-season; moderately affected by hoppers and winds; keeping quality medium.

VARIETY—*Thaviti Goa* (Alamanda).

SYNONYM—Nil.

Tree medium, top oval, shoots thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Olive Ochre (L. 7, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots medium, distant; flesh firm; *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour pleasant; taste moderately sweet; juice fairly abundant.

Stone oblong oval, covered with short, soft fibre all over; *veins forked and grooved.*

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

COHORT IV—CLASS IV

Fruits intermediate with distinct to prominent beak. Leaves with sub-acuminate to acuminate tip and slightly or strongly folded.

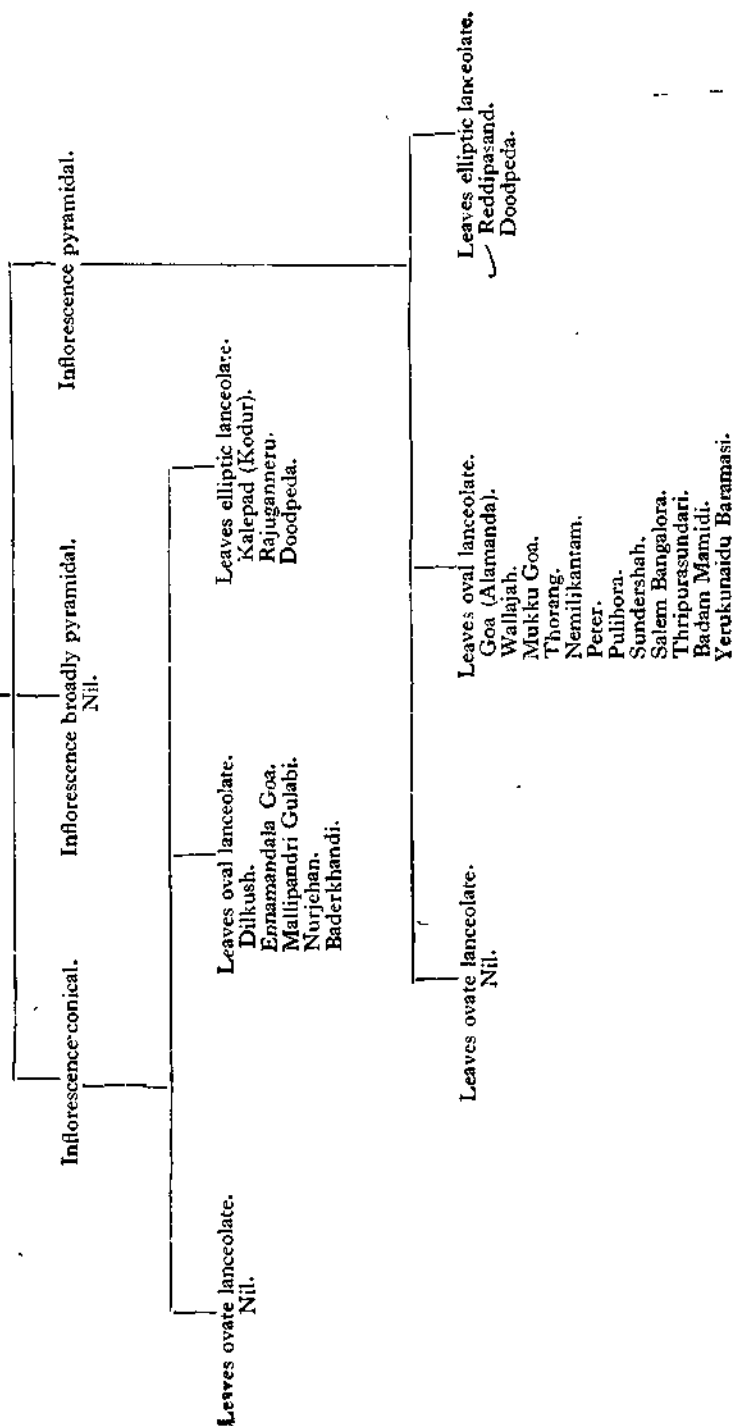


PLATE XXVII.

COHORT IV—CLASS IV.

Fruits intermediate with distinct to prominent beak. Leaves sub-acuminate to acuminate and slightly or strongly folded.

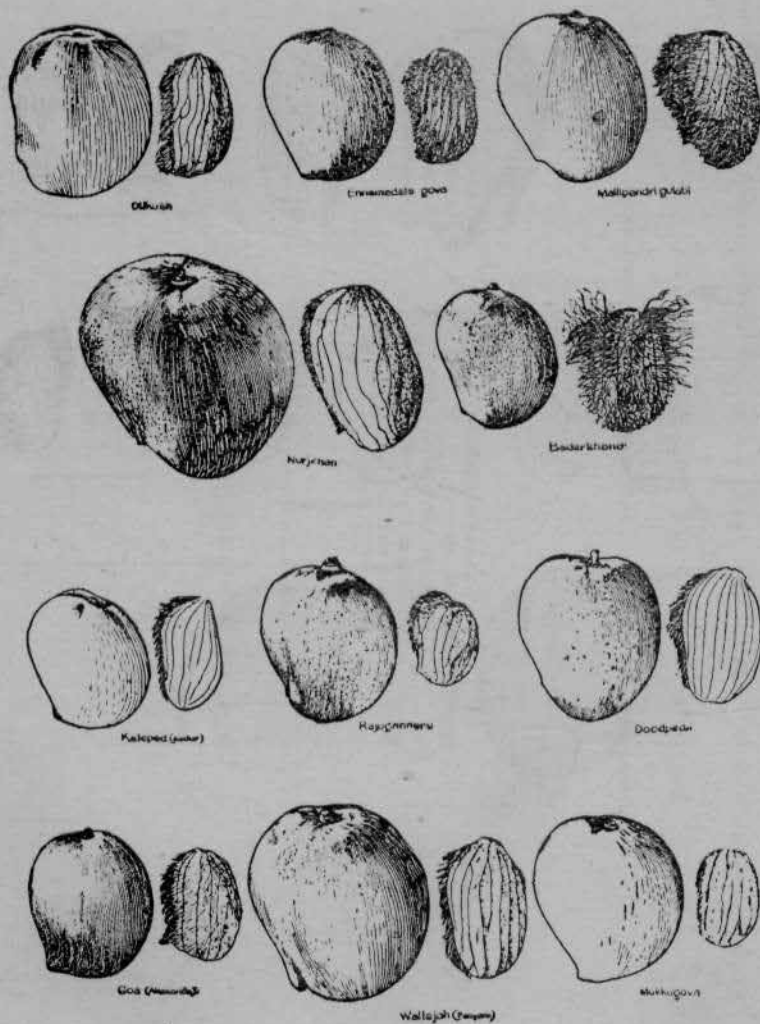
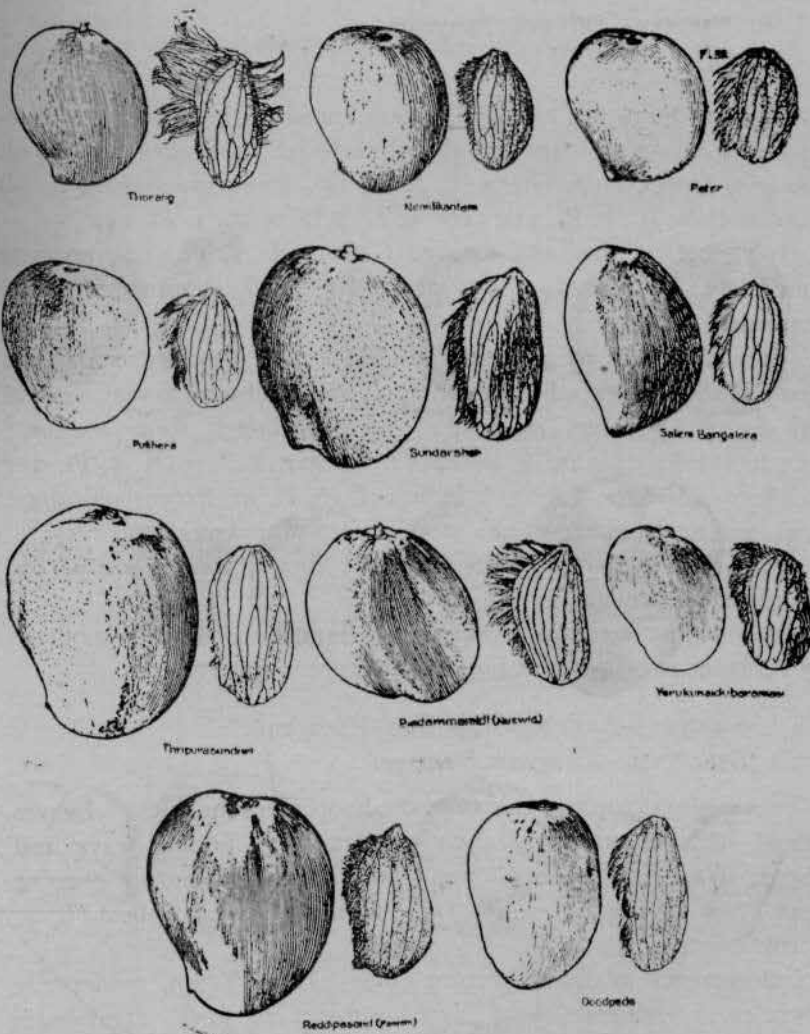


PLATE XXVII—cont



COHORT IV—CLASS IV

Fruits intermediate with distinct to prominent beak. Leaves with sub-acuminate to acuminate tip and slightly or strongly folded.

VARIETY—*Dilkush* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and strongly folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Isabella Color* (L. 7, Pl. 14), *turning Ecrú Olive* (L. 4, Pl. 14).

Inflorescence medium, *Courge Green* (H. 1, Pl. 12), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base rounded; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders rounded; beak distinct; *sinus shallow*; apex rounded; skin medium-thick; *Apricot Yellow* (K. 5, Pl. 9); flesh firm, *fibreless*, *Light Cadmium* (L. 6, Pl. 9), flavour pleasant; taste moderately sweet; juice moderate to abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality fair.

VARIETY—*Ennamandala Goa* (Kadiyam).

SYNONYM—*Kadiyam Baramasi*.

Tree medium, top rounded to oval, shoots medium-thick. Leaves out-held with acuminate tip, slightly reflexed and folded, wavy and twisted. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Dark Citrine* (L. 6, Pl. 15), *turning Apricot Yellow* (L. 4, Pl. 10).

Inflorescence medium, *Lettuce Green* (J. 1, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base flattened; stalk inserted squarely, *cavity slight to absent*; ventral shoulder equal and higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus slight*; apex rounded; skin thin, *Cadmium Yellow* (L. 7, Pl. 9); dots small, close; flesh soft, *Primuline Yellow* (L. 6, Pl. 10), *sparsely to moderately fibrous, fibre medium and soft*; flavour pleasant, taste insipid; juice moderate to abundant.

Stone oval, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium to poor; bearing medium, mid-season; fairly resistant to winds and moderately resistant to hoppers; keeping quality medium.

VARIETY—*Mallipandvi Gulabi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, with acuminate tip, slightly reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Cinnamon Brown* (E. 9, Pl. 14), *turning Ecr u Olive* (I. 5, Pl. 14).

Inflorescence medium, *Mikado Brown* (D. 9, Pl. 13), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval*; base slightly flattened; stalk inserted squarely; *cavity slight to none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak prominent; *sinus slight*; apex rounded; skin medium-thick; *Light Cadmium* (L. 6, Pl. 9), dots small and close; flesh firm, *fibreless*, *Capucine Yellow* (L. 8, Pl. 9), flavour mildly pleasant; taste medium sweet; juice fairly abundant.

Stone oblong oval, covered with short, coarse fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Nurjehan* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cobra Brown* (L. 12, Pl. 8), *immature growing leaves Diamine Brown* (L. 6, Pl. 8), *turning, Brick Red* (C. 12, Pl. 10).

Inflorescence medium; *Lime Green* (K. 1, Pl. 12), densely puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base flattened; stalk inserted squarely; *cavity shallow*; shoulders equal, ventral slightly higher than dorsal, ventral shoulder slightly rising and then rounded, dorsal shoulder rounded; beak prominent; *sinus absent*; apex rounded; skin medium-thick, leathery, *Primuline Yellow* (L. 5, Pl. 10); dots medium, moderately distant; flesh firm, *fibreless*, *Maize Yellow*

(J. 2, Pl. 19); flavour delightful; taste moderately sweet; juice moderately abundant.

Stone oblong oval; covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium; bearing heavy, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Baderkhandi* (Alamanda).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves outheld, with sub-acuminate tip, slightly folded and reflexed. *Emerging and immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Deep Chrysolite Green* (L. 1, Pl. 22).

Inflorescence medium, Testaceous (F. 10, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oval; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long to moderate curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick; Cadmium Yellow (L. 7, Pl. 9); dots close; flesh soft, Primuline Yellow (L. 6, Pl. 10); *fibrous, fibre long, sparse and soft*; flavour delightful; taste very sweet; juice fairly plentiful.

Stone oblong, covered with medium to long, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality good; bearing medium and mid-season; moderately resistant to winds and hoppers; keeping quality fair to poor.

VARIETY—*Kalepad* (Kodur).

SYNONYM—*Katti Neelum*, *Kallapadi*.

Tree small, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Maddar Brown* (L. 7, Pl. 7), *immature growing leaves Spinel Red* (K. 3, Pl. 5), *turning Dark Vinaceous* (J. 8, Pl. 5).

Inflorescence medium, Corinthian Red (K. 2, Pl. 5), sparsely puberulent, *stamens and pistil equal and parallel*, staminodes poorly developed.

Fruit small, ovate oblique to oblong oblique; base obliquely rounded; stalk inserted squarely; *cavity slight*; ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus slight*; apex rounded; skin smooth, medium-thick, leathery, Cadmium Yellow (L. 7, Pl. 9); dots medium, close; flesh firm to meaty; *fibreless*, Primuline Yellow

(L. 6, Pl. 10); flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong oval, covered with sparse, coarse fibre all over and medium on the ventral edge, *veins forked and prominently raised*.

Fruit quality good; bearing heavy and mid-season; moderately resistant to hoppers and winds; keeping quality good.

VARIETY—*Rajuganneru* (Alamanda).

SYNONYM—Nil.

Tree medium to small, top rounded, shoots medium-thick to slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Empire Green* (L. 6, Pl. 16).

Inflorescence small, Citron Green (K. 1, Pl. 3), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base rounded and extended; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 10); dots small, close; flesh soft, *fibreless*, Deep Chrome (L. 7, Pl. 10); flavour mildly pleasant; taste sweet; juice scant to fairly abundant.

Stone oval, covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium to good, bearing poor and late season, resistant to winds and hoppers; keeping quality good.

VARIETY—*Doodpeda* (Kadiyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Ecru Olive* (L. 5, Pl. 14), *turning Sulphine Yellow* (J. 5, Pl. 14).

Inflorescence medium, Etruscan Red (J. 2, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak absent; *sinus slight*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, Pl. 9); dots medium, moderately

distant, flesh soft; *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour pleasant; taste medium sweet.

Stone oblong oval, covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—Goa (Alamanda).

SYNONYM—Nil.

Tree large, top dome shaped, shoots medium-thick. Leaves out-held with acuminate tip, strongly reflexed and slightly folded. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, ovate*; base rounded to slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak mammiform; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots small, close; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour mildly pleasant; taste sweet; juice moderately abundant.

Stone oval, covered with short, coarse fibre all over, *veins forked and grooved*.

Fruit quality medium to good; bearing heavy, early to mid-season; moderately resistant to winds and hoppers; keeping quality fair to medium.

VARIETY—Wallajah (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and strongly folded. *Emerging leaves Mignonette Green* (L. 2, Pl. 14), *immature growing leaves Dark Citrine* (L. 6, Pl. 15), *turning Dull Citrine* (H. 6, Pl. 15).

Inflorescence medium, Courge Green (C. 10, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak prominent; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 4, Pl. 9); dots medium,

close ; flesh soft, *fibreless*, Primuline Yellow (L. 3, Pl. 9) ; flavour pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oval, covered with sparse, short and soft fibre all over, *veins parallel to forked and slightly depressed*.

Fruit quality medium, bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Mukku Goa* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Hellebore Green* (L. 3, Pl. 15), *turning Grape Green* (L. 2, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 22), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate* ; base slightly flattened ; stalk inserted squarely ; *cavity slight*, ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak mammiform ; *sinus shallow* ; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots small, moderately distant ; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 10) ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oval, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Thorang* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed, wavy, folded and twisted. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Dark Citrine* (L. 6, Pl. 15), *turning Apricot Yellow* (L. 4, Pl. 10).

Inflorescence medium, Lettuce Green (J. 1, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, ovate oblique* ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve ; beak mammiform ; *sinus slight* ; apex rounded ; skin thin, Cadmium Yellow (L. 7, Pl. 9) ; dots small,

close ; flesh soft, Primuline Yellow (L. 6, Pl. 10), *moderately fibrous, fibre medium and soft, flavour pleasant ; taste insipid ; juice moderately abundant.*

Stone oval, covered with medium, soft fibre all over, *veins forked and slightly raised.*

Fruit quality medium to poor; bearing medium, mid-season ; fairly resistant to winds and moderately resistant to hoppers ; keeping quality medium.

VARIETY—*Nemilikantam* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with acuminate tip, slightly reflexed and folded. *Emerging leaves Mars Brown (A. 11, Pl. 15), immature growing leaves Diamine Brown (L. 2, Pl. 8), turning Madder Brown (J. 11, Pl. 7).*

Inflorescence medium, Acajou Red (K. 4, Pl. 6), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, ovate ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve, beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick ; Deep Chrome (L. 7, Pl. 10) ; dots medium, close ; flesh firm, *fibreless*, Primuline Yellow (L. 5, Pl. 9) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins slightly raised and forked.*

Fruit quality good ; bearing heavy, early to mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Peter* (Trichur).

SYNONYM—*Yerra Goa* (Kadiyam), *Nadusalai* (Salem), *Grape* (Trichinopoly), *Peterpasand* (Kodur), *Gohabunder* (Banganapalle), *Raspuri* (Bangalore), *Pairi* (Bombay).

Tree large, top dome shaped, shoots medium-thick. Leaves out-held with acuminate tip, moderately reflexed, folded, crinkled and twisted. *Emerging leaves Mignonette Green (L. 1, Pl. 14), immature growing leaves Ecrú Olive (L. 4, Pl. 14), turning Citrine (L. Pl. 14).*

Inflorescence medium, Absinthe Green (K. 1, Pl. 12), moderately puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *small ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve; beak broadly mammiform; *sinus slight*; apex rounded; skin medium-thick, inclined to be rough, Apricot Yellow (L. 4, Pl. 10); dots small, close; flesh soft, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour delightful; taste very sweet; juice abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and grooved*.

Fruit quality good; bearing heavy and early; moderately resistant to hoppers and winds; keeping quality medium to poor.

VARIETY—*Pulihora* (Kodur).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves out-held, with acuminate tip, moderately reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium to large, Spectrum Red (L. 4, Pl. 3), densely puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *medium, ovate*; base flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and slightly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9), with a blush of Kaiser Brown (B. 12, Pl. 13) on shoulder; dots medium, close; flesh soft, Primuline Yellow (L. 5, Pl. 10), *fibreless*; flavour mildly pleasant; taste sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium; bearing medium to heavy, early to mid-season; fairly resistant to winds and hoppers; keeping quality medium.

VARIETY—*Sundersha* (Kadiyam).

SYNONYM—*Watery Sundersha*.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with acuminate tip, slightly reflexed and folded. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Diamond Brown* (L. 1, Pl. 8), *turning Saccardos Umber* (L. 6, Pl. 14).

Inflorescence medium, Etruscan Red (J. 2, Pl. 5), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit large, ovate; base slightly flattened and extended; stalk inserted squarely; *cavity slight to shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak prominent; *sinus slight*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9), with a blush of Coral Red (G. 11, Pl. 3) on shoulders; dots large, moderately distant; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour pleasant; taste medium sweet; juice abundant to fairly plentiful.

Stone oblong oval, covered with short, coarse fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Salem Bangalora* (Salem).

SYNONYM—*Irulappan Bangalora*.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Isabella Color* (L. 6, Pl. 13), *turning Pyrite Yellow* (L. 4, Pl. 13).

Inflorescence large, Corinthian Red (J. 3, Pl. 6), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, ovate; base slightly flattened; stalk inserted squarely; *cavity slight to shallow*; ventral shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak broadly mammiform; *sinus slight*; apex rounded; skin medium-thick, leathery, smooth, Primuline Yellow (L. 6, Pl. 10); dots small, close; flesh firm, *fibreless*, Apricot Yellow (K. 5, Pl. 9); flavour delightful; taste very sweet; juice abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality very good, bearing medium; mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Thripurasundari* (Kadiyam).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves out-held, with acuminate tip, slightly reflexed and folded. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Orange Citrine* (K. 6, Pl. 14), *turning Orange* (K. 7, Pl. 13).

Inflorescence medium to large, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *large, ovate*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight to shallow*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots large, moderately distant; flesh firm, *fibreless*, Deep Chrome (L. 7, Pl. 10); flavour pleasant; taste medium to sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium to poor; bearing medium and mid-season; moderately resistant to hoppers and winds; keeping quality medium.

VARIETY—*Badam Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cinnamon Brown* (L. 10, Pl. 15), *immat re growing leaves Light Brownish Olive* (L. 11, Pl. 15), *turning Saccardos Umber* (L. 6, Pl. 14).

Inflorescence medium, Light Corinthian Red (H. 9, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong oval*; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct to slightly prominent; *sinus absent*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, P. 10); dots medium and close; flesh firm and *fibreless*, Empire Yellow (L. 2, Pl. 9); flavour mildly pleasant; taste moderately sweet.

Stone oblong, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium to poor; bearing medium and mid-season; susceptible to hoppers and resistant to winds; keeping quality good.

VARIETY—*Yerukunaidu Baramasi* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with sub-acuminate tip, slightly reflexed and folded.

Emerging leaves Brussels Brown (H. 10, Pl. 15), *immature growing leaves Kaiser Brown* (A. 10, Pl. 15), *turning orange Citrine* (A. 12, Pl. 15).

Inflorescence medium, moderately puberulent, *pistil longer than and parallel to stamens*, staminodes poorly developed.

Fruit *small to medium*, ovate oblique; base obliquely rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 7, Pl. 9); dots medium and close; flesh soft, Cadmium Orange (L. 8, Pl. 9), *moderately fibrous, fibre medium and soft*; flavour pleasant; taste medium to sweet; juice moderately abundant.

Stone oval, covered with medium, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, in two crops, late and off-season; keeping quality good.

VARIETY—*Reddipasand* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, with sub-acuminate tip, slightly reflexed, wavy and folded. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Dull Citrine* (I. 5, Pl. 14).

Inflorescence medium to large, Dark Vinaceous (I. 8, Pl. 5), densely puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *large, ovate*; base slightly flattened; stalk inserted squarely; *cavity shallow*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct, *sinus shallow*; apex rounded; skin medium-thick. Buff Yellow (I. 4, Pl. 9); dots small, moderately distant; flesh soft, *fibreless*, Apricot Yellow (K. 5, Pl. 9); flavour pleasant; taste sweet; juice moderate to abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good; bearing medium, mid-season; keeping quality good to medium.

VARIETY—*Doodpeda* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with sub-acuminate tip, slightly reflexed and folded. *Emerging*

leaves Kaiser Brown (A. 11, Pl. 14), immature growing leaves Prussian Red (F. 11, Pl. 6), turning Ochraceous Buff (H. 7, Pl. 11).

Inflorescence medium, Baryta Yellow (I. 2, Pl. 9), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh soft, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour pleasant; taste medium sweet; juice scant to fairly abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and susceptible to hoppers; keeping quality medium.

COHORT V—CLASS I

Fruita markedly long with a point to missing beak. Leaves with acute tip and flat.

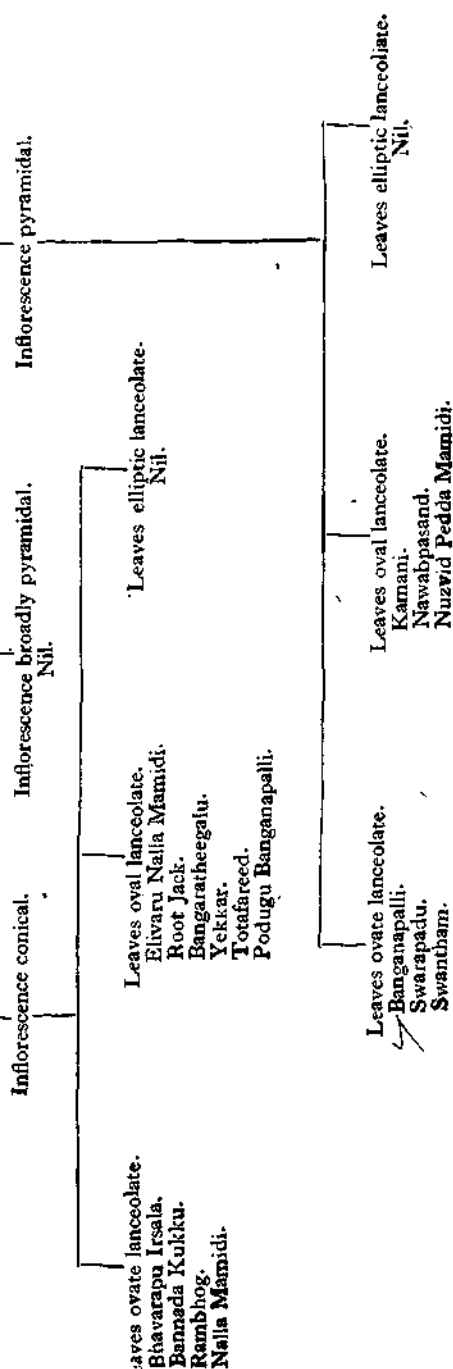


PLATE XXVIII.

COHORT V—CLASS I.

Fruits markedly long with a point to missing beak. Leaves with acute leaf tip and flat.

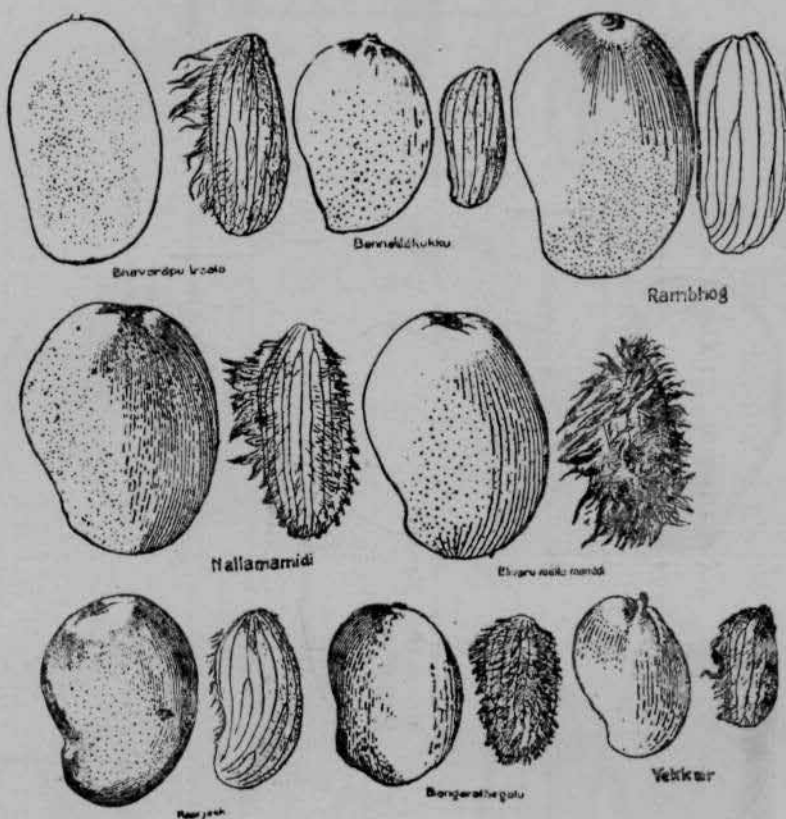
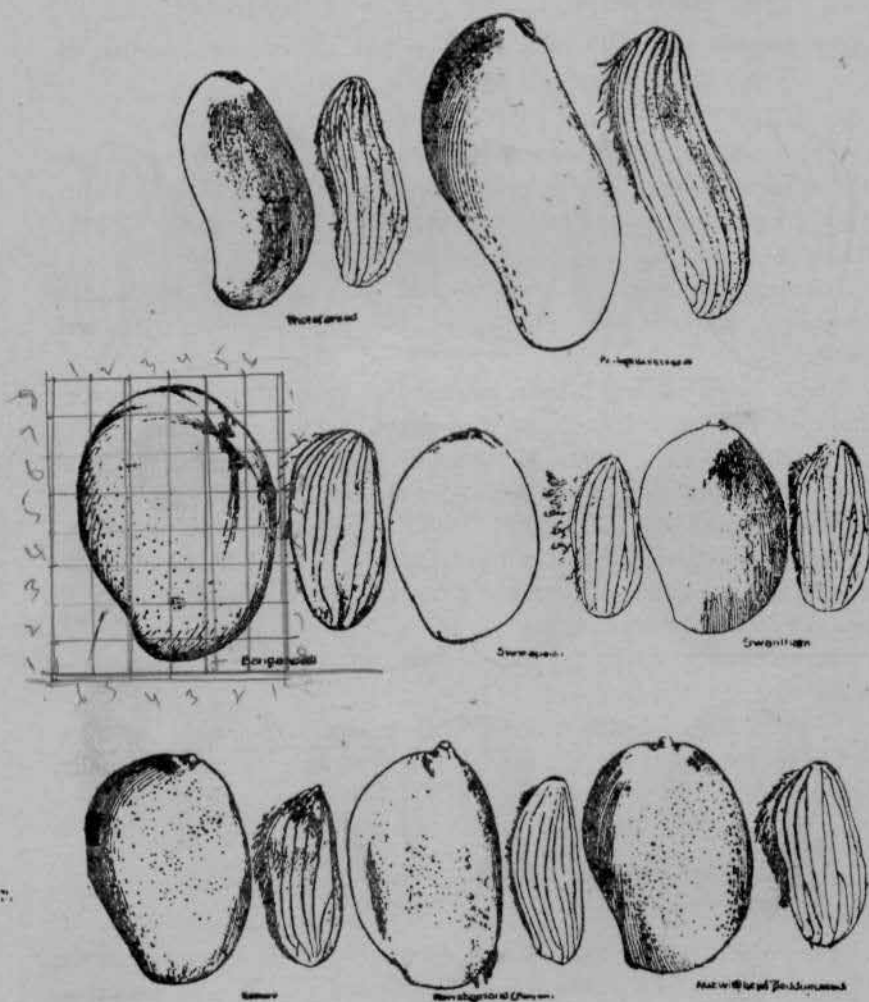


PLATE XXVIII—cont.



XI. VARIETY DESCRIPTIONS

COHORT V—CLASS I

Fruit markedly long with a point to missing beak
Leaves with acute tip and flat.

VARIETY—*Bhavarapu Irsala* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Lime Green* (L. 2, Pl. 12), *immature growing leaves Pyrite Yellow* (L. 4, Pl. 13), *turning Dresden Brown* (L. 10, Pl. 14).

Inflorescence medium, Scarlet Red (L. 2, Pl. 3), moderately puberulent, *stamens and pistil equal and parallel*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity absent*; shoulder equal and level, ventral shoulder ending in a moderate curve, dorsal shoulder ending in a long curve; beak absent; apex rounded; *sinus absent*; skin smooth and shiny, leathery, medium-thick, Light Cadmium (L. 6, Pl. 9); dots medium, moderately distant; flesh firm, Cadmium Yellow (L. 7, Pl. 9); *fibrous close to the stone*; flavour mildly pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with medium, sparse fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, and mid-season; moderately resistant to sooty mould and winds; keeping quality medium.

VARIETY—*Bannada Kukku* (Mudabidri).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Ecu Olive* (L. 4, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14).

Inflorescence large, Coral Red (H. 10, Pl. 3), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit large, oblong oval; base rounded; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder slightly broader than dorsal and rounded, dorsal shoulder ending in a long curve; beak missing; apex broadly pointed; *sinus absent*; skin rough, thick, tough, Light Cadmium (L. 6, Pl. 9), blushed

with Ochre Red (E. 11, Pl. 5) on shoulders ; dots small and distant ; flesh firm, Apricot Yellow (K. 4, Pl. 9), *fibreless* ; flavour aromatic ; taste sour ; juice moderately abundant.

Stone oblong, covered with short, sparse, soft fibre all over, *veins forked and slightly raised*.

Fruit quality poor ; bearing medium, mid-season ; moderately susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Rambhog* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Hellebore Red. (L. 3, Pl. 3), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit large, oblong ; base rounded ; stalk inserted squarely ; cavity none ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Empire Yellow (K. 3, Pl. 9) ; dots medium, close ; flesh soft, *fibreless*, Apricot Yellow (K. 5, Pl. 9) ; flavour pleasant ; taste sweet ; juice fairly abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; badly susceptible to winds and hoppers ; keeping quality poor.

VARIETY—*Nalla Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots thick. Leaves outheld, slightly reflexed. *Emerging leaves Verona Brown* (L. 12, pl. 15), *immature growing leaves Acajou Red* (J. 9, Pl. 7), *turning Orange Citrine* (L. 7, Pl. 15).

Inflorescence medium, Lemon Chrome (L. 4, Pl. 9), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit large, oblong reniform to oblong ; base slightly flattened ; stalk inserted squarely ; *cavity slight to shallow* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight to shallow* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots medium,

distant ; flesh firm, *fibreless*, Deep Chrome (L. 7, Pl. 10) ; flavour mildly pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong, covered with medium, coarse fibre all over; *veins parallel and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and susceptible to hoppers ; keeping quality medium.

VARIETY—*Elivaru Nalla Mamidi* (Pithapuram).

SYNONYM—Nil.

Tree medium to large, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Deep Chrysolite Green* (L. 2, Pl. 13), *turning Lime Green* (L. 2, Pl. 12).

Inflorescence medium, Russett Vinaceous (E. 10, Pl. 15), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong reniform*; base rounded ; stalk inserted squarely ; *cavity slight to shallow* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak scarcely perceptible ; *sinus shallow*; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots small, moderately distant ; flesh firm, Lemon Chrome (L. 4, Pl. 9) ; *slightly fibrous, fibre medium and soft* ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong, covered with medium and soft fibre all over, *veins slightly forked and raised*.

Fruit quality medium to poor ; bearing medium to poor, mid-season ; resistant to winds and susceptible to hoppers ; keeping quality medium.

VARIETY—*Root Jack* (Trichur).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Dresden Brown* (L. 7, Pl. 15), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence large, Rose Red (L. 4, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong reniform* ; base rounded ; stalk inserted obliquely ; *cavity shallow* ; ventral shoulder shorter and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in

a wide curve; beak a point; *sinus shallow*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots medium, distant; flesh soft, buttery, *fibreless*. Primuline Yellow (L. 6, Pl. 10); flavour mildly pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Bangarathegalu* (Nuzvid).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves [outheld, slightly reflexed.] *Emerging leaves Antique Brown* (L. 9, Pl. 14), *immature growing leaves Madder Brown* (L. 7, Pl. 7), turning *Vandyke Umber* (L. 2, Pl. 7).

Inflorescence medium, Etruscan Red (H. 10, Pl. 5), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus shallow*; apex rounded; skin thin, Light Cadmium (L. 6, Pl. 9); dots large, close; flesh soft, Primuline Yellow (L. 5, Pl. 10), *moderately fibrous, fibre medium and soft*; flavour pleasant; taste sweet; juice scant to fairly abundant.

Stone oblong, covered with medium soft, fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality fair.

VARIETY—*Yekkar* (Mangalore).

SYNONYM—Nil.

Tree small, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and wavy. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Buffy Citrine* (L. 8, Pl. 14), turning *Isabella Colour* (L. 7, Pl. 14).

Inflorescence large, Lumiere Green (J. 1, Pl. 12), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong*; base rounded; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal,

ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus shallow*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, close; flesh firm, Primuline Yellow (L. 5, Pl. 9); *fibrous, fibre medium and soft*; flavour aromatic, taste medium to sweet.

Stone oblong, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium to good; bearing medium, mid-season, fairly susceptible to hoppers and resistant to winds, keeping quality good.

VARIETY—*Totafareed* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Deep Chrysolite Green* (L. 2, Pl. 13), *turning Lime Green* (L. 2, Pl. 12).

Inflorescence medium, Russett Vinaceous (E. 10, Pl. 5), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder ending in a long curve, dorsal shoulder ending abruptly; beak a point; *sinus shallow*; apex rounded; skin medium-thick, Deep Chrome (L. 7, Pl. 10); dots small, close; flesh soft; Light Cadmium (L. 6, Pl. 9); *moderately fibrous, fibre long, soft*, flavour pleasant; taste sweet; juice fairly plentiful.

Stone oblong, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing heavy, mid-season; moderately resistant to hoppers and winds; keeping quality poor.

VARIETY—*Podugu Banganapalli* (Nuzvid).

SYNONYM—*Raja Banganapalli*.

Tree medium, oval, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Absinthe Green* (L. 1, Pl. 13), *immature growing leaves Buffy Citrine* (L. 8, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Deep Vinaceous (L. 9, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral

shoulder ending in a long curve, dorsal shoulder sloping abruptly; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, distant; flesh firm; *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant, taste medium sweet; juice moderately abundant.

Stone oblong, covered with short fibre all over, *veins slightly forked and raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Banganapalli* (Nuzvid).

SYNONYM—*Beneshan, Chappatai*.

Tree medium, top rounded, shoots medium-thick, Leaves out-held, slightly reflexed. *Emerging leaves Cource Green* (L. 1, Pl. 12), *immature growing leaves Pyrite Yellow* (L. 4, Pl. 13), *turning Olive Lake* (L. 5, Pl. 13).

Inflorescence medium, Oil Green (K. 2, Pl. 22), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, obliquely oval*; base obliquely flattened; stalk inserted slightly obliquely; *cavity shallow*; ventral shoulder markedly broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak a point to missing; apex broadly pointed; *sinus shallow*; skin thin, smooth and shiny, membranous, Primuline Yellow (L. 5, Pl. 9); dots medium and distant; flesh firm to meaty, *fibreless*, Maize Yellow (J. 2, Pl. 9); flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with short, sparse soft fibre all over, *veins forked and prominently raised*.

Fruit quality good; bearing heavy, mid-season; moderately susceptible to hoppers and winds; keeping quality good.

VARIETY—*Swarapadu* (Kodur).

SYNONYM—Nil.

Tree large, top dome shaped, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Emerald Green* (L. 12, Pl. 7), *turning Brick Red* (H. 11, Pl. 7).

Inflorescence medium, Prout's Brown (K. 8, Pl. 15), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium to large, oblong elliptic*; base tapering; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder sloping; beak absent; *sinus absent*; apex broadly pointed; skin medium-thick, Primuline Yellow (L. 5, Pl. 10), dots medium, close; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour aromatic; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins slightly forked and raised*.

Fruit quality medium; bearing heavy, mid to late season; moderately resistant to hoppers and winds; keeping quality medium to good.

VARIETY—*Swantham* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Yellowish Citrine* (K. 5, Pl. 14), *turning Grape Green* (L. 2, Pl. 14).

Inflorescence medium, Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *medium to large, oblong*; base rounded; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus absent*; apex rounded; skin medium-thick; Lemon Chrome (L. 4, Pl. 9); flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over; *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Kamani* (Mangalore).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Light Brownish Olive* (L. 8, Pl. 15), *immature growing leaves Buffy Citrine* (J. 6, Pl. 13), *turning Dark Olive Buff* (L. 4, Pl. 13).

Inflorescence medium, Corinthian Red (J. 9, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10), with a blush of Coral Red (H. 11, Pl. 3); dots medium; moderately distant; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with sparse, short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium to fair.

VARIETY—*Nawabpasand* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 20), *immature growing leaves Mignonette Green* (L. 1, Pl. 14), *turning Isabella Color* (L. 7, Pl. 14).

Inflorescence medium, Cosse Green (A. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large*; *oblong*; base rounded; stalk inserted squarely; *cavity absent*, ventral shoulder level and broader than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, moderately distant; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Nuzvid Pedda Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Prout's Brown* (J. 8, Pl. 15), *turning Ecu Olive* (L. 5, Pl. 14).

Inflorescence medium, Dresden Brown (J. 8, Pl. 14), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak a point ; *sinus shallow* ; apex rounded ; skin medium-thick ; dots medium and distant ; Primuline Yellow (L. 5, Pl. 9) ; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9) ; flavour pleasant, taste moderately sweet.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

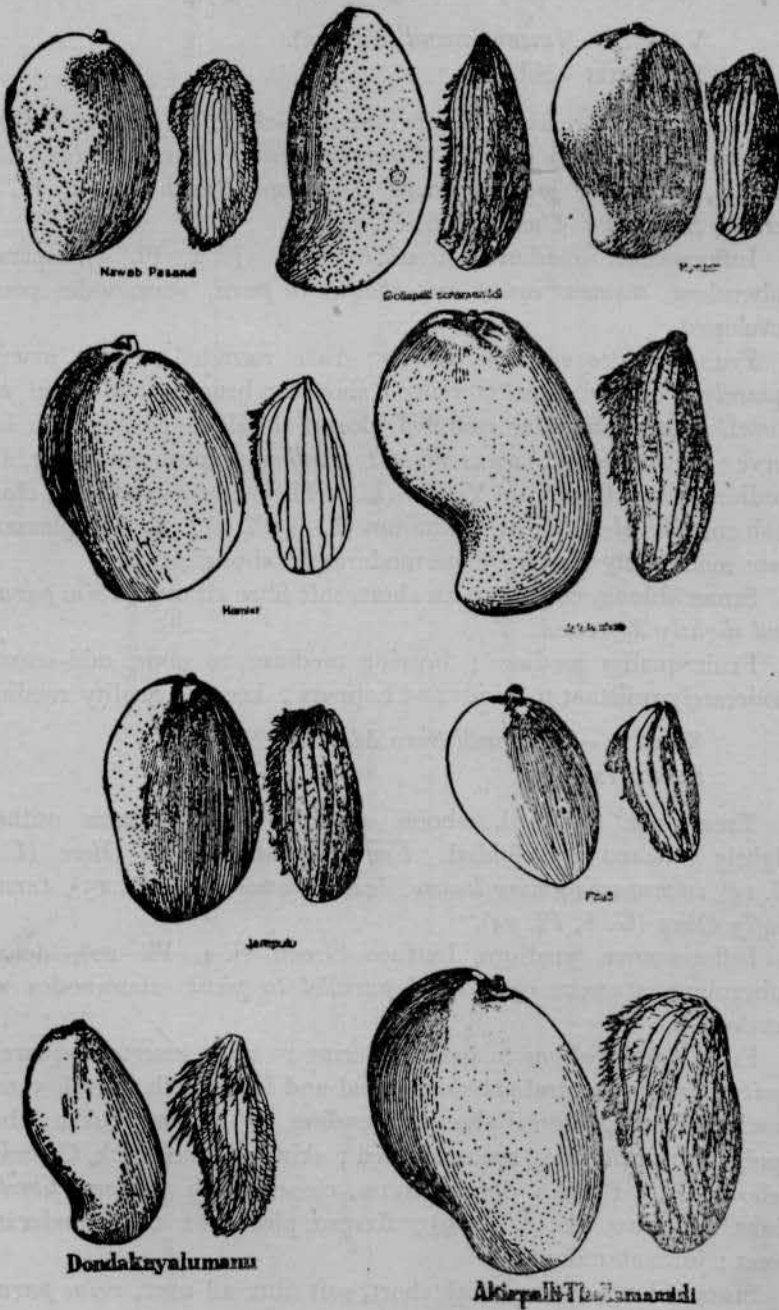
COHORT V—CLASS II

Fruits markedly long with beak missing or a point. Leaves with acute tip and slightly or strongly folded.	
Inflorescence conical.	Inflorescence broadly pyramidal. Nil.
Leaves ovate lanceolate. Nawabpasand.	<div> <div>Leaves oval lanceolate. Gollapalli Sora Mamidi. Hyder Saheb. Hamlet. Jalal Saheb. Jampulu. Fazli.</div> <div>Leaves elliptic lanceolate. Nil.</div> </div>
Leaves ovate lanceolate. Nil.	<div>Leaves oval lanceolate. Akirpalli Thella Mamidi. Dondakayalumanu.</div> <div>Leaves elliptic lanceolate. Nil.</div>

PLATE XXIX.

COHORT V—CLASS II.

Fruit markedly long with a missing or a point beak. Leaves with acute tip and slightly or strongly folded.



COHORT V—CLASS II

Fruits markedly long with beak missing or a point. Leaves with acute tip and slightly or strongly folded.

VARIETY—*Nawabpasand* (Siruvel).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Diamond Brown* (L. 1, Pl. 8), *turning Saccardos Umber* (I. 6, Pl. 14).

Inflorescence medium, Etruscan Red (J. 2, Pl. 5), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit *large to medium, oblong*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight to shallow*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots medium, close; flesh soft, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium to poor, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Gollapalli Sora Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Ecrú Olive* (L. 5, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Buffy Olive* (G. 6, Pl. 14).

Inflorescence medium, Lettuce Green (J. 4, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong*; base tapering; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder sloping, dorsal shoulder ending in a long curve; beak a point; *sinus shallow*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots medium, close; flesh buttery, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour pleasant; taste moderately sweet; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, early to mid-season; moderately resistant to winds and hoppers; keeping quality fair to medium.

VARIETY—*Hyder Saheb* (Kadiyam).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Dark Citrine* (L. 8, Pl. 15), *turning Orange Citrine* (L. 7, Pl. 15).

Inflorescence medium to large, Cosse Green (K. 2, Pl. 22), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong, sub-reniform; base rounded, stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus shallow*; apex rounded; skin thick, Primuline Yellow (L. 6, Pl. 10), dots medium, close; flesh firm, fibreless, Pinnard Yellow (J. 3, Pl. 10); flavour pleasant, taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium to poor, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Hamlet* (Trichur).

SYNONYM—Nil.

Tree large, top rounded, shoots thick. Leaves down-held, strongly reflexed and folded. *Emerging leaves Pyrite Yellow* (L. 4, Pl. 13), *immature growing leaves Cinnamon Brown* (L. 10, Pl. 15), *turning Amber Brown* (A. 9, Pl. 14).

Inflorescence large, Rose Dore (L. 9, Pl. 3), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit large, oblong oval; base rounded and extended; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, shoulders ending in a long curve; beak a point; *sinus slight*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, distant; flesh soft, Deep Chrome (L. 7, Pl. 10); *slightly fibrous, fibre medium and soft*; flavour acid and taste sour; juice moderate to abundant.

Stone oblong, covered with medium, soft fibre all over, *veins forked and prominently raised*.

Fruit quality poor as a dessert fruit and good as a culinary fruit ; bearing medium, late season ; fairly resistant to winds and hoppers ; keeping quality poor.

VARIETY—*Jalal Saheb* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, Leaves out-held, slightly reflexed and folded. *Emerging and immature growing leaves Mignonette Green* (L. 1, Pl. 22).

Inflorescence large, Shrimp Pink (A. 10, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong reniform* ; base rounded ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus deep* ; apex rounded ; skin thick, tough, Light Cadmium (L. 6, Pl. 9), with a blush of Cadmium Yellow (L. 7, Pl. 9) on shoulders ; dots medium, moderately distant ; flesh soft, *fibreless*, Apricot Yellow (J. 5, Pl. 9) ; flavour aromatic ; taste moderately sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and prominently raised*.

Fruit quality medium ; bearing medium and late season ; moderately resistant to hoppers and winds ; keeping quality medium to fair.

VARIETY—*Jampulu* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, moderately reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Raw Umber* (E. 9, Pl. 15), *turning Sudan Brown* (H. 9, Pl. 14).

Inflorescence medium, Rose Dore (J. 9, Pl. 2), moderately puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *medium to large, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; beak absent ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; *sinus absent* ; apex rounded ; dots large, moderately distant, skin medium-thick, leathery, smooth, Deep Chrome (L. 7, Pl. 10) ; flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9) ; aromatic ; moderately sweet ; juice moderately abundant.

Stone oblong, covered with short, sparse, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing heavy, early; resistant to hoppers and moderately resistant to winds; keeping quality medium to poor.

VARIETY—*Fazli* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Orange Citrine* (L. 7, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Mignonette Green (L. 1, Pl. 22), moderately puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval*; base rounded and extended; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; *sinus absent*; apex broadly pointed; skin medium-thick, Deep Chrome (I. 7, Pl. 10); dots medium, moderately distant; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 9); flavour pleasant; taste sweet; juice moderate to abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to winds and hoppers; keeping quality fair to medium.

VARIETY—*Akirpalli Thella Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick, Leaves outheld, moderately reflexed and folded. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Isabella Color* (L. 6, Pl. 13), *turning Olive Lake* (K. 5, Pl. 13).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *large, oblong oblique*; base obliquely rounded; stalk inserted squarely; *cavity slight*; shoulders equal and ventral higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder sloping; beak missing; *sinus shallow*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 10); dots medium, moderately distant; flesh soft, Deep Chrome (L. 7, Pl. 10.), *fibrous, fibre moderately long and coarse*; flavour pleasant; taste moderately sweet; juice moderate to abundant.

Stone oblong, covered with moderately abundant long and coarse fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing poor and early; susceptible to winds and hoppers; keeping quality poor.

VARIETY—*Dondakayalumanu* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Lime Green* (L. 2, Pl. 12), *immature growing leaves Deep Chrysolite Green* (L. 3, Pl. 12), *turning Olive Yellow* (L. 4, Pl. 12).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *small, oblong reniform*; base rounded; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder ending in a long curve, dorsal shoulder sloping abruptly; beak absent; *sinus shallow to deep*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, close; flesh soft, Deep Chrome (L. 7, Pl. 10); *moderately fibrous, fibre long and soft*; flavour delightful; taste sweet to very sweet; juice abundant to fairly plentiful.

Stone oblong, covered with soft, long fibre all over, *veins parallel and grooved*.

Fruit quality very good; bearing heavy, mid-season; moderately resistant to winds and hoppers; keeping quality fair to medium.

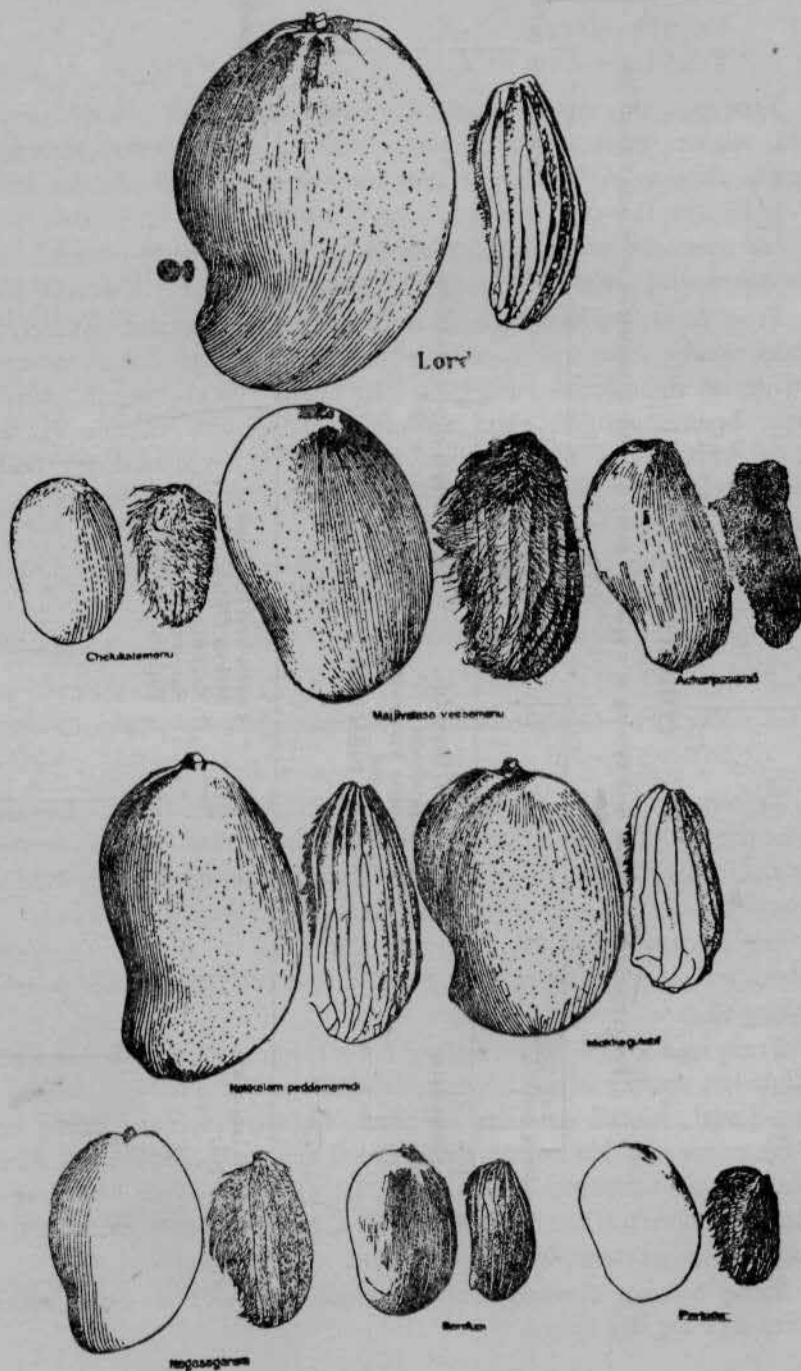
COHORT V—CLASS III

Fruits markedly long with beak missing or a point. Leaves with sub-acuminate or acuminate tip and flat.

Inflorescence conical.	Inflorescence broadly pyramidal. Nil.	Inflorescence pyramidal.
<p>Leaves ovate lanceolate. Lord.</p>	<p>Leaves oval lanceolate. Chelukalamanu. Majivalasa Veesamanu. Acharpasand. Nakkalam Pedda Mamidi.</p>	<p>Leaves elliptic lanceolate. Nil.</p>
<p>Leaves ovate lanceolate. Nil.</p>	<p>Leaves oval lanceolate. Mokka Gulabi. Nagasagaram. Saraum. Porkala.</p>	<p>Leaves elliptic lanceolate. Nil.</p>

COHORT V—CLASS III.

Fruits markedly long with beak missing or a point. Leaves with sub-acuminate or acuminate tip and flat.



COHORT V—CLASS III

Fruits markedly long with beak missing or a point. Leaves with sub-acuminate or acuminate tip and flat.

VARIETY—*Lord* (Nuzvid).

SYNONYM—*Lantherlu*.

Tree medium, top rounded, shoot medium-thick. Leaves out-held, slightly reflexed, with sub-acuminate tip. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Acajou Red* (J. 9, Pl. 15), *turning Orange* (L. 7, Pl. 15).

Inflorescence large, Buff Yellow (L. 4, Pl. 9), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit large, reniform; base rounded; stalk inserted squarely; cavity shallow; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders ending in a long curve; beak absent; sinus deep; apex rounded; skin medium-thick, Lemon Chrome (L. 4, Pl. 9), with a blush of Peach Red (C. 2, Pl. 3) on shoulders; flesh soft, fibreless, Primuline Yellow (L. 5, Pl. 9); taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over; veins forked and slightly to prominently raised.

Fruit quality medium; bearing shy and mid-season; susceptible to winds and hoppers; keeping quality medium to poor.

VARIETY—*Chelukalamanu* (Alamanda).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld and slightly reflexed, with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 9, Pl. 15), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning Light Brownish Olive* (L. 2, Pl. 15).

Inflorescence medium, Viridine Green (J. 2, Pl. 18), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium to small, oblong; base rounded; stalk inserted obliquely; cavity absent; ventral shoulder level with and broader than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point; sinus slight; apex rounded; skin thin, membranous, Cadmium Yellow (L. 7, Pl. 9); dots small and close; flesh soft, fibreless, Empire Yellow (K. 2, Pl. 9); flavour delightful; taste sweet; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, veins forked and slightly raised.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Majjivalasa Veesamanu* (Alamanda).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Cosse Green* (L. 2, Pl. 20), *immature growing leaves Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Cosse Green (A. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil, staminodes well developed*.

Fruit large, oblong oval ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Mustard Yellow (L. 3, Pl. 9) ; flesh soft, Light Cadmium (L. 6, Pl. 9) ; *moderately fibrous, fibre medium and soft* ; flavour acid ; taste sour ; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good as a culinary fruit and poor as a dessert fruit ; bearing poor, mid-season ; susceptible to hoppers and winds ; keeping quality medium to poor.

VARIETY—*Acharpasand* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *turning Isabella Color* (L. 7, Pl. 14).

Inflorescence medium, Ochraceous Orange (H. 2, Pl. 3), sparsely puberulent, *stamens equal and parallel to pistil, staminodes well developed*.

Fruit medium, obliquely oblong ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder broader than dorsal, ventral shoulder rounded, dorsal shoulder sloping abruptly ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots small, moderately distant ; flesh firm, Lemon Chrome (L. 4, Pl. 9) ; *slightly fibrous, fibre sparse, medium and coarse* ; flavour pleasant ; taste sub-acid to moderately sweet ; juice moderately abundant.

Stone oblong, covered with short, coarse fibre all over, *veins slightly forked and raised*.

Fruit quality poor as a dessert fruit, good for culinary uses; bearing heavy, mid-season; resistant to wind and susceptible to hoppers; keeping quality medium.

VARIETY—*Nakkalam Pedda Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Tawney Olive* (I. 7, Pl. 13), *immature growing leaves Ecrú Olive* (J. 5, Pl. 13), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Rainette Green (L. 3, Pl. 14), *densely puberulent, stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong; base rounded; stalk inserted squarely; cavity absent; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; sinus shallow; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, distant; flesh soft, fibreless, Apricot Yellow (K. 5, Pl. 9); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short fibre all over, veins forked and slightly raised.

Fruit quality medium; bearing shy to medium, mid-season; fairly susceptible to winds and hoppers; keeping quality fair to medium.

VARIETY—*Mokka Gulabi* (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Acajou Red* (L. 7, Pl. 16), *turning Light Seal Brown* (I. 8, Pl. 8).

Inflorescence medium, Coral Pink (F. 8, Pl. 3), *densely puberulent, stamens larger than and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base slightly flattened; stalk inserted squarely; cavity slight; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a moderate curve; beak absent; sinus shallow; apex rounded; skin thin, Primuline Yellow (I. 6, Pl. 10); dots large, distant; flesh soft, fibreless, Primuline Yellow (I. 5, Pl. 10); flavour pleasant; taste sweet, juice moderately abundant.

Stone oblong, covered with short, soft fibre all over; *veins parallel and slightly raised*.

Fruit quality good; bearing medium and mid-season; fairly susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Nagasagaram* (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, with sub-acuminate tip. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Dull Citrine* (A. 4, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11); sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal; ventral shoulder rounded, dorsal shoulder ending in a long curve; beak, absent; *sinus slight to shallow*; apex rounded; skin medium-thick, Lemon Chrome (L. 4, Pl. 9); dots small, close; flesh soft, Cadmium Yellow (L. 7, Pl. 9); *moderately fibrous, fibre long, coarse*; flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with long, coarse fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium to good; bearing medium, mid-season; susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Saraum* (Mangalore).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld, slightly reflexed, with acuminate tip. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Yellowish Citrine* (K. 5, Pl. 14), *turning Grape Green* (L. 2, Pl. 14).

Inflorescence medium, Lime Green (K. 1, Pl. 12), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *small, oblong*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex rounded; skin medium-thick; Deep Chrome (L. 7, Pl. 10); dots small and distant; flesh firm and *fibreless*; Light Cadmium (C. 10, Pl. 10); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins slightly forked and grooved*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Porkala* (Mangalore).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed, with acuminate tip. *Emerging leaves Hellebore Green* (L. 3, Pl. 15), *immature growing leaves Pyrite Yellow* (L. 4, Pl. 13), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Absinthe Green (K. 1, Pl. 12), *moderately puberulent, stamens shorter than and parallel to pistil* ; staminodes well developed.

Fruit *small to medium, oblong oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve ; beak a point ; *sinus slight* ; apex rounded ; skin medium-thick, Apricot Yellow (L. 4, Pl. 10) ; dots small, close ; flesh firm, *fibreless*, Baryta Yellow (F. 2, Pl. 10) ; flavour pleasant, taste sweet ; juice moderate to abundant.

Stone oblong ; covered with short, stiff fibre all over ; *veins forked and slightly raised*.

Fruit quality good ; bearing medium, mid-season ; moderately susceptible to winds and hoppers ; keeping quality good.

COHORT V—CLASS IV

Fruits markedly long with beak missing or a point. Leaves with tip sub-acuminate to acuminate and slightly or strongly folded.

Inflorescence conical.	Inflorescence broadly pyramidal. Nil.	Inflorescence pyramidal.
Leaves ovate lanceolate. Nawab Mamidi. Nalla Rasam.	Leaves oval lanceolate. Alipasand. Chinnna Rasam. Cheruku Rasam. Manathota Bahuddin Chinnakothakaya. Kapatabhanga. Manoratha. Thenneru. Sora Mamidi. Verpanasa.	Leaves elliptic lanceolate. Nil.
Leaves ovate lanceolate. Nil.	Leaves oval lanceolate. Bahuddin. <i>Calcutta Baranasi.</i> Jalor. Regunta Sora Mamidi. Chandrakaran.	Leaves elliptic lanceolate. Nil.

PLATE XXXI.

COHORT V—CLASS IV.

Fruits markedly long with beak missing or a point. Leaves with tip sub-acuminate to acuminate and slightly or strongly folded.

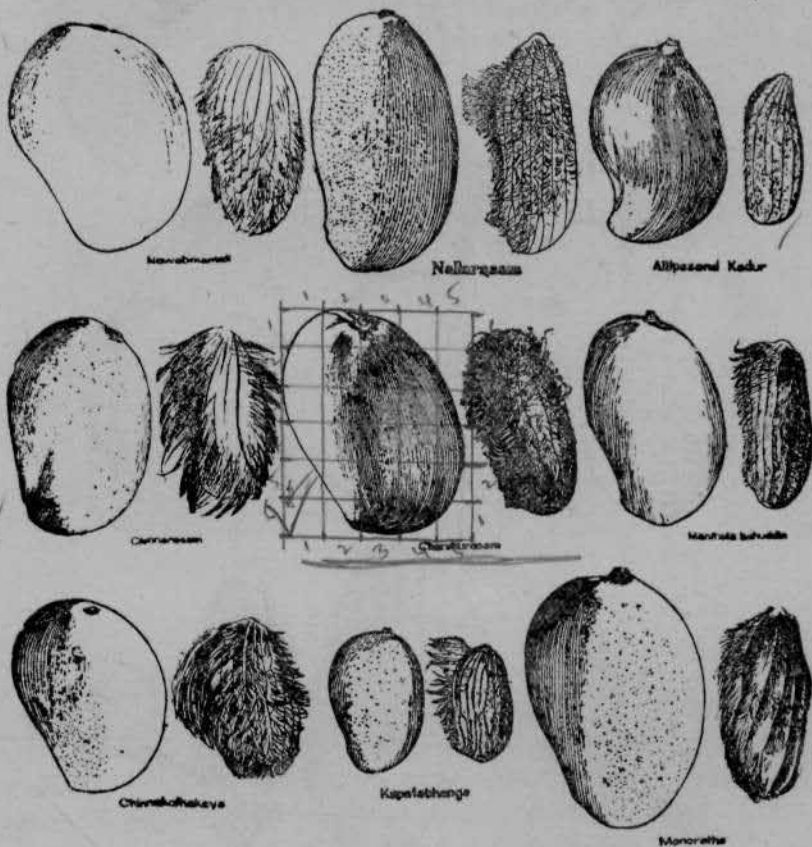
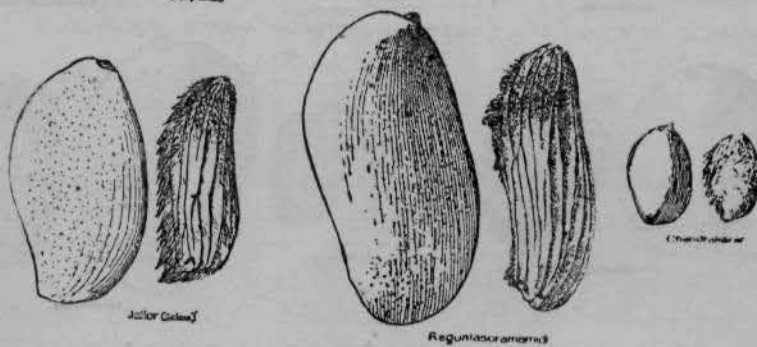
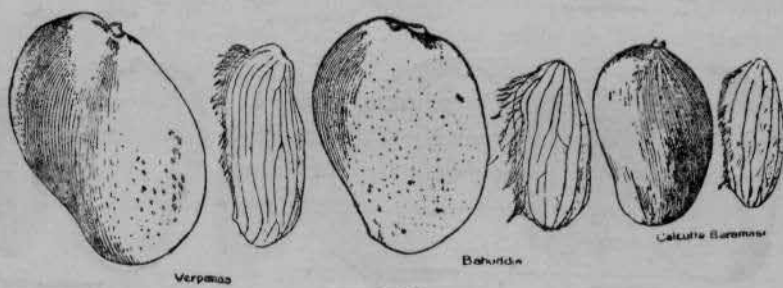
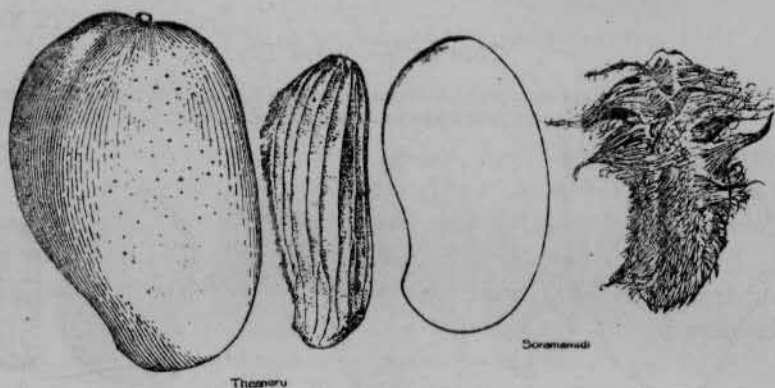


PLATE XXXI—cont.



COHORT V—CLASS IV

Fruit markedly long with beak missing or a point.

Leaves with tip sub-acuminate to acuminate and slightly or strongly folded leaf surface.

VARIETY—*Nawab Mamidi* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Grape Green* (K. 4, Pl. 13).

Inflorescence medium, Brussels Brown (H. 9, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oblong oval; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak slight but distinct; *sinus slight*; apex rounded; skin medium-thick. Light Cadmium (L. 6, Pl. 9); dots small, close; flesh soft, *fibreless*, Empire Yellow (K. 2, Pl. 9); flavour delightful; taste very sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing heavy, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Nalla Rasam*. (Nuzvid).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Mustard Yellow (L. 3, Pl. 9), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity none*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak scarcely perceptible; *sinus shallow*; apex rounded; skin medium-thick; Cadmium Yellow (L. 7, Pl. 9); dots large, distant; flesh soft, Maize Yellow (J. 2, Pl. 9), *moderately fibrous, fibre medium*

and soft ; flavour pleasant ; taste moderately sweet ; juice abundant to fairly plentiful.

Stone oblong ; covered with medium and soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium, bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Allipasand* (Kodur).

SYNONYM—Nil.

Tree medium to small, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, moderately reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Claret Brown* (L. 11, Pl. 7), *turning Emerald Green* (L. 12, Pl. 7).

Inflorescence large, Courge Green (L. 1, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oblong reniform ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve, beak absent ; *sinus deep* ; apex broadly pointed ; skin medium-thick, fairly rough, Primuline Yellow (L. 6, Pl. 10) ; dots medium, close ; flesh firm, Primuline Yellow (L. 5, Pl. 9) ; *slightly fibrous, fibre sparse, medium and coarse* ; flavour mildly pleasant ; taste medium sweet ; juice sweet to fairly abundant.

Stone oblong reniform ; covered with sparse, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium to poor ; bearing twice, late and off-season ; fairly resistant to winds and susceptible to hoppers ; keeping quality fair to medium.

VARIETY—*Chinna Rasam* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves up-held with sub-acuminate tip, strongly reflexed and folded. *Emerging leaves Buffy Citrine* (L. 8, Pl. 14), *immature growing leaves Dark Citrine* (L. 6, Pl. 15), *turning Medal Bronze* (L. 8, Pl. 15).

Inflorescence large, Ecu Olive (L. 4, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, oblong ; base obliquely rounded ; stalk inserted obliquely ; *cavity absent* ; ventral shoulder broader and higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak a point ; *sinus absent to slight* ; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; flesh soft, Primuline

Yellow (L. 6, Pl. 10); fibrous, *fibre medium, abundant and soft*; flavour pleasant; taste sweet; juice plentiful.

Stone medium, oblong; covered with long, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium to good; bearing medium, early to mid-season; moderately resistant to hoppers and susceptible to winds; keeping quality fair to poor.

VARIETY—*Cheruku Rasam* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Orange Citrine* (K. 7, Pl. 14), *immature growing leaves Yellowish Citrine* (K. 5, Pl. 14), *turning Ecu Olive* (L. 4, Pl. 14).

Inflorescence medium, Coral Pink (E. 9, Pl. 3), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *large, oblong oblique*; base obliquely flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex rounded; skin medium-thick, Lemon Chrome (L. 4, Pl. 9); dots small, moderately distant; flesh soft, Light Cadmium (L. 6, Pl. 9); *slightly fibrous, fibre medium and soft*; flavour delightful, taste very sweet; juice fairly plentiful.

Stone oblong, covered with medium, soft, moderately abundant fibre all over, *veins parallel and slightly raised*.

Fruit quality very good; bearing heavy in clusters, mid-season; moderately resistant to winds and hoppers; keeping quality fair.

VARIETY—*Manathota Bahuddin*. (Chittoor).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Ecu Green* (L. 5, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Corinthian Red (J. 9, Pl. 5), sparsely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit *large, oblong*, base rounded to obliquely flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and broader than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak absent; *sinus slight*; apex

rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 9); dots small, distant; flesh firm, fibreless, Capucine Yellow (L. 8, Pl. 9); flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, veins parallel and prominently raised.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Chinnakothakaya* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. Emerging leaves Mignonette Green (L. 1, Pl. 14), immature growing leaves Lettuce Green (L. 3, Pl. 21), turning Mineral Green (L. 3, Pl. 20).

Inflorescence medium, Cosse Green (K. 2, Pl. 22), moderately puberulent, stamens shorter than and parallel to pistil, staminodes well developed.

Fruit medium, obliquely oblong; base obliquely flattened; stalk inserted squarely; cavity absent; ventral shoulder equal and slightly higher than dorsal, ventral shoulder slightly rising and then rounded, dorsal shoulder ending in a long curve; beak a point; sinus slight; apex rounded, skin thin, Primuline Yellow (L. 6, Pl. 10); dots medium, close; flesh soft, Deep Chrome (L. 7, Pl. 10); moderately fibrous, fibre medium and soft; flavour pleasant, taste sweet; juice moderately abundant.

Stone oblong oval, covered with medium, coarse fibre all over, veins forked and slightly raised.

Fruit quality good; bearing medium, mid-season; moderately susceptible to winds and hoppers; keeping quality good.

VARIETY—*Kapatabhanga* (Trichur).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, with sub-acuminate tip, slightly reflexed and folded. Emerging leaves Yellowish Citrine (L. 3, Pl. 13), immature growing leaves Deep Chrysolite Green (L. 2, Pl. 13), turning Absinthe Green (L. 1, Pl. 13).

Inflorescence large, Cosse Green (K. 2, Pl. 22), moderately puberulent, stamens shorter than and parallel to pistil; staminodes well developed.

Fruit large, oblong oval; base rounded; stalk inserted squarely; cavity absent; ventral shoulder broader than and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak absent; apex rounded; skin medium-thick, Cadmium Yellow

(L. 7, Pl. 9); flesh soft, *fibreless*, Primuline Yellow (L. 6, Pl. 10); flavour mildly pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality poor; bearing poor and mid-season; moderately susceptible to winds and hoppers; keeping quality fair.

VARIETY—*Manoratha* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 22), moderately puberulent, *stamens equal and parallel to pistil*; staminodes well developed.

Fruit *large, oblong oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak none; *sinus none*; apex rounded; skin thick, Mustard Yellow (L. 3, Pl. 9); dots medium, distant; flesh firm, Lemon Chrome (L. 4, Pl. 9); *moderately fibrous, fibre medium and soft*; flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel to forked and slightly to prominently raised*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to winds and hoppers; keeping quality good.

VARIETY—*Thenneru* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Hellebore Green* (L. 5, Pl. 15), *immature growing leaves Acajou Red* (J. 9, Pl. 7), *turning Citrine* (J. 9, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), densely puberulent, *stamens equal and parallel to pistil*; staminodes poorly developed.

Fruit *large, oblong, sub-reniform*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak a point, *sinus shallow*; apex broadly pointed; skin thin, Apricot Yellow (J. 6, Pl. 10); dots small, distant; flesh soft, *fibreless*,

Cadmium Yellow (L. 7, Pl. 9) ; flavour mildly pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oblong, covered with short, stiff fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing poor, mid-season ; fairly susceptible to hoppers and badly susceptible to winds ; keeping quality medium.

VARIETY—*Sora Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 2, Pl. 20), *immature growing leaves Mineral Green* (L. 3, Pl. 20), *turning Lettuce Green* (L. 4, Pl. 20).

Inflorescence medium, Coral Pink (F. 9, Pl. 3), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *medium to large, oblong reniform* ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; *sinus slight to shallow* ; beak absent ; apex rounded ; skin medium-thick, Capucine Yellow (L. 8, Pl. 9), dots small, close ; flesh firm, Capucine Yellow (L. 8, Pl. 9), *moderately fibrous, fibre medium and coarse* ; flavour mildly pleasant ; taste medium sweet ; juice abundant to plentiful.

Stone oblong, covered with medium, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium to poor, mid-season ; moderately resistant to winds and hoppers ; keeping quality poor.

VARIETY—*Verpanasa* (Nuzvid).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Absinthe Green* (L. 1, Pl. 13), *immature growing leaves Absinthe Green* (F. 10, Pl. 7), *turning Olive Lake* (K. 5, Pl. 13).

Inflorescence large, Light Coral Red (A. 10, Pl. 2), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong oblique* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded ; dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ;

skin medium-thick, Apricot Yellow (I. 6, Pl. 10); dots medium, distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with medium, sparse, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium to poor; bearing medium, mid-season, fairly resistant to hoppers and winds; keeping quality fair to poor.

VARIETY—*Bahuddin* (Chittoor).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves* Grape Green (L. 2, Pl. 14), *immature growing leaves* Grape Green (L. 2, Pl. 14), *turning* Ecu Olive (L. 4, Pl. 14).

Inflorescence medium, Deep Vinaceous (I. 9, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large, obliquely oval*; base obliquely flattened; stalk inserted squarely; *cavity absent*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak a point; *sinus slight*, apex rounded; skin thick, Primuline Yellow (L. 6, Pl. 10); dots medium, distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour mild; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins slightly forked and prominently raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Calcutta Baramasi* (Bobbili).

SYNONYM—Nil.

Tree small to medium, top dome shaped, shoots thick. Leaves out-held with acuminate tip, slightly reflexed and folded. *Emerging leaves* Grape Green (L. 2, Pl. 14), *immature growing leaves* Rainette Green (L. 3, Pl. 14), *turning* Citrine (L. 7, Pl. 14).

Inflorescence medium, Carmine (L. 5, Pl. 6), moderately puberulent, *pistil longer than and oblique to stamens*, staminodes poorly developed.

Fruit medium, *oblong oval*; base rounded; stalk inserted squarely; *cavity none*; ventral shoulder level and broader than dorsal and rounded; dorsal shoulder ending in a long curve; beak absent; apex rounded; *sinus slight*; skin medium-thick, smooth, leathery, Apricot Yellow (L. 6, Pl. 11); dots medium, moderately

distant ; flesh soft, *fibreless*, Empire Yellow (L. 2, Pl. 10) ; flavour pleasant ; taste sweet ; juice scanty.

Stone oblong, covered with short, soft fibre all over, *veins forked and grooved*.

Fruit quality good ; bearing medium to poor, bearing two crops—mid and off-season ; resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Jailor* (Salem).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly folded and moderately reflexed. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Ecu Green* (L. 5, Pl. 14), *turning Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, Lumiere Green (J. 1, Pl. 12), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong elliptic ; base tapering ; stalk inserted obliquely ; *cavity absent* ; ventral shoulder broader and level with dorsal, ventral shoulder ending in a long curve, dorsal shoulder sloping abruptly ; beak a point ; *sinus slight* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 5, Pl. 10) ; dots medium, moderately distant ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone oblong, covered with short, stiff fibre all over and medium on the ventral edge, *veins forked and slightly raised*.

Fruit quality good ; bearing medium, mid-season ; fairly susceptible to winds and hoppers ; keeping quality medium.

VARIETY—*Regunta Sora Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Hellebore Green* (L. 5, Pl. 15), *immature growing leaves Yellowish Citrine* (L. 3, Pl. 13), *turning Cinnamon Brown* (H. 12, Pl. 15).

Inflorescence large, Lumiere Green (J. 1, Pl. 12), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit large, oblong oblique ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder sloping abruptly ; beak a point ; *sinus slight* ; apex rounded ; skin thin, Deep Chrome (L. 7, Pl. 9) ; dots medium and distant ; flesh

soft, *fibreless*, Light Cadmium (L. 6, Pl. 9), flavour mildly pleasant ; taste medium sweet ; juice abundant to fairly plentiful.

Stone oblong, covered with short, soft fibre all over, *veins slightly forked and prominently raised*.

Fruit quality poor ; bearing medium, mid-season ; moderately susceptible to hoppers and badly susceptible to winds ; keeping quality poor.

VARIETY—*Chandrakaran* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Absinthe Green* (L. 1, Pl. 13), *immature growing leaves Absinthe Green* (L. 1, Pl. 13), *turning Olive Lake* (K. 5, Pl. 13).

Inflorescence medium, Light Coral Red (A. 10, Pl. 2), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *small, oblong* ; base rounded, stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder ending in a long curve, dorsal shoulder sloping abruptly ; beak absent, *sinus absent* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, moderately distant ; flesh soft, Cadmium Yellow (L. 7, Pl. 9) ; *moderately fibrous, fibre medium and soft* ; flavour mildly pleasant ; taste medium sweet ; juice fairly plentiful.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality good ; bearing heavy, mid to early season ; moderately susceptible to winds and hoppers ; keeping quality poor.

COHORT VI—CLASS I

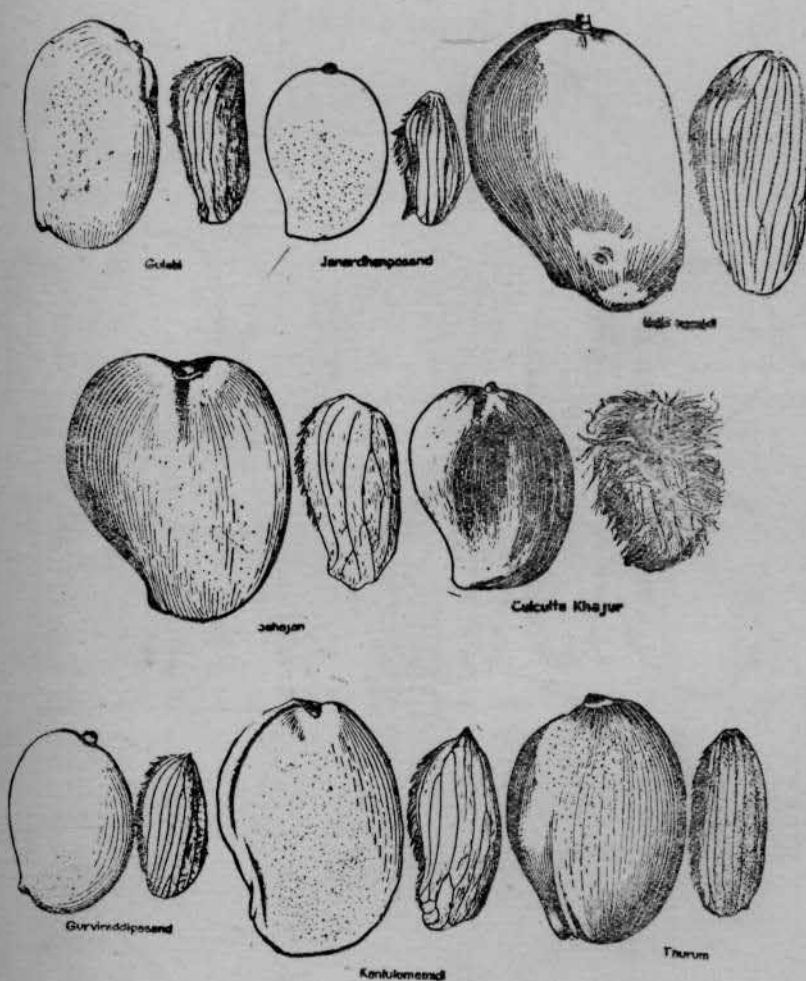
Fruits markedly long with beak distinct or prominent. Leaves with acute leaf tip and flat.

Inflorescence conical.	Inflorescence broadly pyramidal. Nil.	Inflorescence pyramidal.
Leaves ovate lanceolate. Gulabi. Janardhana Pasand. Nalla Mamidi. Shahajan.	Leaves oval lanceolate. Calcutta Kharjur. Guruvireddi Pasand. Kantatu Mamidi. Thurum.	Leaves elliptic lanceolate. Nil.
Leaves ovate lanceolate. Mokka Collector. Bangalora. Dilpasand. Koram Goa. Kolanka Goa.	Leaves oval lanceolate. Balakonda. Maharajah. Thagarampudi Theya Mamidi. Kondiah Mamidi. Kharjur.	Leaves elliptic lanceolate. Israli Mamidi.

PLATE XXXII.

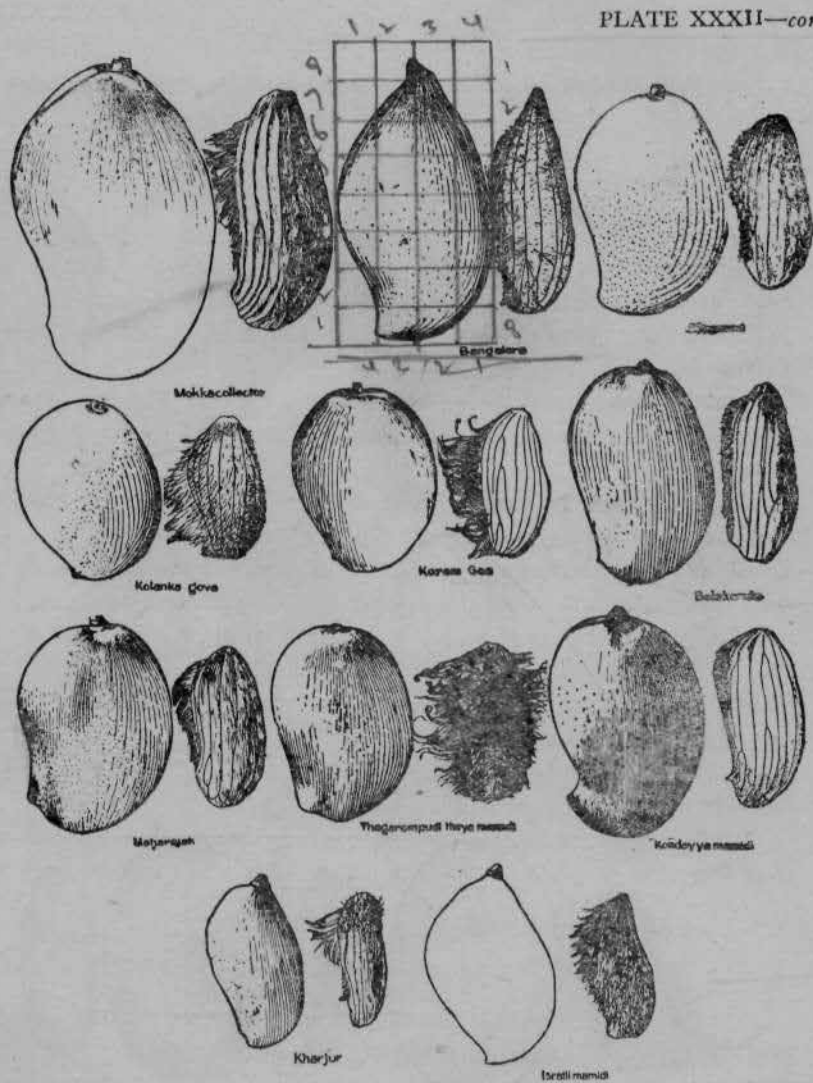
COHORT VI—CLASS I.

Fruits markedly long with a distinct to prominent beak. Leaves with acute leaf tip and flat.



A

PLATE XXXII—cont



XII. VARIETY DESCRIPTIONS

COHORT VI—CLASS I

Fruits markedly long with beak distinct or prominent.

Leaves with acute leaf tip and flat.

VARIETY—*Gulabi* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Hellebore Green* (L. 5, Pl. 15), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, *Cosse Green* (K. 2, Pl. 22), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to large, oblong oblique*; base obliquely flattened and extended; stalk inserted obliquely; *cavity slight*; ventral shoulder higher and broader than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight to absent*; apex rounded; skin thick, *Wax Yellow* (L. 5, Pl. 11); dots medium, close; flesh firm, *fibreless*, *Empire Yellow* (J. 4, Pl. 10); flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong; covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately resistant to winds and hoppers; quality fair to medium.

VARIETY—*Janardhana Pasand* (Kadium).

SYNONYM—*Janardhana Prasad*.

Tree medium, top oval, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Diamine Brown* (L. 4, Pl. 8), *turning Cinnamon Brown* (C. 10, Pl. 15).

Inflorescence medium, *Spectrum Red* (L. 4, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong*; base rounded and slightly extended; stalk inserted squarely; *cavity absent*; beak mammiform; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; *sinus shallow*; apex rounded; dots small,

distant ; skin medium-thick, leathery, Light Cadmium (L. 6, Pl. 9), with a blush of Corinthian Red (L. 11, Pl. 4) on most parts of the fruit ; flesh firm, *fibreless*, Empire Yellow (K. 3, Pl. 9) ; flavour pleasant ; taste sweet ; juice scanty.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good ; bearing poor to medium, mid-season ; moderately resistant to hoppers and resistant to winds ; keeping quality medium.

VARIETY—*Nalla Mamidi* (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Lime Green* (L. 2, Pl. 12).

Inflorescence medium, Russet Vinaceous (E. 10, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, obliquely oblong oval* ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak mammiform ; *sinus slight* ; skin medium-thick, Primuline Yellow (L. 5, Pl. 9) ; dots small, moderately distant ; flesh firm, *fibreless*, Yellow Ochre (J. 5, Pl. 11) ; flavour pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oblong, covered with short fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Shahajan* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Isabella Colour* (L. 6, Pl. 13), *turning Pyrite Yellow* (L. 4, Pl. 13).

Inflorescence medium, Mikado Orange (I. 9, Pl. 10), *stamens longer and parallel to pistil*, densely puberulent, stamens poorly developed.

Fruits *very large, oblong reniform* ; base slightly flattened ; stalk inserted squarely in a *shallow cavity* ; beak a point ; *sinus shallow* ; shoulders level, ventral broader than dorsal and rounded,

dorsal shoulder ending in a moderate curve ; apex broadly pointed ; dots medium, moderately distant ; skin thick, tough and smooth, Primuline Yellow (J. 3, Pl. 7) ; flavour mild ; taste moderately sweet ; juice scanty.

Stone oblong ; covered with sparse, short and soft fibre on the ventral edge ; *veins forked and grooved*.

Fruit quality medium ; bearing poor mid-season ; resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Calcutta Kharjur* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, Leaves out-held, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Hellebore Green* (L. 4, pl. 15), *turning Ecu Olive* (L. 4, Pl. 24).

Inflorescence medium, Lumiere Green (J. 1, Pl. 12), densely puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit large, oblong ; base rounded ; stalk inserted squarely ; cavity slight ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak mammiiform ; sinus shallow ; apex rounded ; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) ; dots medium, moderately distant ; flesh soft, Light Cadmium (L. 6, Pl. 9) ; *moderately fibrous, fibre long and soft* ; flavour pleasant ; taste moderately sweet ; juice abundant.

Stone oblong, covered with long, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality fair.

VARIETY—*Guruvireddi Pasand* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Shrimp Pink (A. 9, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, oval ; base rounded ; stalk inserted squarely ; cavity absent ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak a point ; sinus slight ; apex rounded ; skin medium-thick. Light

Cadmium (L. 6, Pl. 10) ; dots medium, distant ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste medium sweet, juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium to good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Kantulu Mamidi* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Isabella Colour* (F. 6, Pl. 13), *turning Light Yellowish Olive* (K. 2, Pl. 12).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong* ; base rounded ; stalk inserted squarely ; *cavity shallow* ; shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus shallow* ; apex rounded ; skin medium-thick, leathery, Primuline Yellow (L. 5, Pl. 10) ; dots small, distant ; flesh soft, *fibreless*, Maize Yellow (J. 2, Pl. 9) ; flavour mildly pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium to shy, mid-season ; moderately resistant to hoppers and badly susceptible to winds ; keeping quality poor.

VARIETY—*Thurum* (Banganapalli).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Viridine Green (K. 2, Pl. 19), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong oval* ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak prominent ; *sinus slight* ; apex rounded ; skin thick, Cadmium Yellow (L. 7, Pl. 9) ;

dots medium, moderately distant; flesh soft, *fibreless*, Empire Yellow (K. 3, Pl. 9); flavour turpentine; taste medium sweet to insipid; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality poor; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Mokka Collector* (Bobbili).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Yellowish Citrine* (K. 5, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence large, Mikado Orange (K. 9, Pl. 9), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong oval*; base rounded and slightly extended; stalk inserted squarely in a *shallow cavity*; beak distinct; *sinus shallow*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; apex rounded; dots medium, moderately distant; skin medium-thick, leathery, smooth, Primuline Yellow (L. 5, Pl. 9); flesh soft, *fibreless*, Cadmura Yellow (L. 7, Pl. 9); flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium; bearing poor, moderately resistant to hoppers and resistant to winds; keeping quality medium.

VARIETY—*Bangalora* (Kodur).

SYNONYM—*Collector, Totapuri, Sundersha, Burmodilla, Killi Mokku, Kallamai*.

Tree medium, top oval, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Citrine Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Medal Bronze* (L. 9, Pl. 14).

Inflorescence medium, Coral Red (H. 10, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong*; base rounded, stalk inserted squarely; *cavity absent*; shoulder equal and level, ventral shoulder ending in a long curve, beak absent, apex broadly pointed; *sinus shallow* dorsal shoulder sloping abruptly (L. 4, Pl. 9), [skin thick, Lemon

Chrome, smooth, dots medium and close; flesh firm, *fibreless*, Mustard Yellow (L. 3, Pl. 9); flavour pleasant; moderately sweet; juice moderately-abundant.

Stone oblong, covered with short, sparse and soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to hoppers and winds. Keeping quality good to medium.

VARIETY—*Dilpasand* (Kodur).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Ecrú Green* (L. 5, Pl. 14), *turning Tauney Olive* (I. 7, Pl. 13).

Inflorescence medium, Coral Red (H. 10, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong*; base rounded; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder ending in a moderate curve; dorsal shoulder ending in a long curve; beak absent; apex broadly pointed; *sinus shallow*; skin thick, Lemon Chrome (L. 4, Pl. 9), smooth; dots medium and close; flesh firm, *fibreless*, Mustard Yellow (L. 3, Pl. 9); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with short, sparse, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to hoppers and winds; keeping quality medium.

VARIETY—*Koram Goa* (Mangalore).

SYNONYM—Nil.

Tree medium; top rounded; shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Saccardos Umber* (L. 9, Pl. 15), *immature growing leaves Prouts Brown* (A. 10, Pl. 15), *turning Buffy Citrine* (L. 8, Pl. 14).

Inflorescence medium, Pompeian Red (K. 9, Pl. 5), sparsely puberulent, *stamens shorter than and oblique to pistil*, staminodes well developed.

Fruit *medium, oval*; base rounded; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Yellow Ochre (L. 7, Pl. 11); dots medium, distant; flesh soft, Primuline Yellow (L. 6,

Pl. 10) ; *moderately fibrous, fibre medium and soft* ; flavour pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oblong oval to oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins slightly forked and depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Kolanka Goa* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning Sudan Brown* (L. 10, Pl. 14).

Inflorescence medium, Acajou Red (K. 4, Pl. 6), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval* ; base rounded and slightly extended ; stalk inserted squarely ; *cavity absent* ; beak out-curved ; *sinus slight to shallow* ; shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; apex rounded ; dots small and close ; skin medium-thick, tough, smooth, Lemon Chrome (L. 4, Pl. 9) ; flesh firm to crisp, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour mildly pleasant ; taste moderately sweet ; juice scanty.

Stone oblong oval, covered all over with short, soft fibre, *veins forked and slightly to prominently raised*.

Fruit quality medium ; bearing heavy, mid-to-late season ; moderately resistant to hoppers and winds. Keeping quality medium.

VARIETY—*Balakonda* (Panyam).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Hellebore Green* (L. 5, Pl. 15), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Cosse Green (K. 2, Pl. 14), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong* ; base rounded ; stalk inserted squarely ; *cavity slight* ; shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak slight but distinct ; *sinus slight* ; apex rounded ; skin thick, Wax Yellow (L. 5, Pl. 11) ;

dots medium, close ; flesh firm, soft, *fibreless*, Empire Yellow (J. 4, Pl. 10) ; flavour pleasant, taste medium sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality fair.

VARIETY—*Maharajah* (Moodabidri).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Dark Citrine* (L. 6, Pl. 15), *immature growing leaves Citrine* (L. 6, Pl. 14).

Inflorescence medium, Light Jasper Red (J. 9, Pl. 4), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak prominent ; *sinus shallow* ; apex rounded ; skin medium-thick, Lemon Chrome (L. 4, Pl. 9) ; dots medium, moderately distant ; flesh firm, *fibreless*, Apricot Yellow (K. 4, Pl. 9) ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality good.

VARIETY—*Thagarampudi Theya Mamidi* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, slightly reflexed. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Ecu Green* (L. 5, Pl. 14), *turning Ecu Olive* (L. 4, Pl. 14).

Inflorescence medium, Mineral Green (L. 3, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin thick, dots medium, close ; flesh firm, *fibrous, fibre medium and soft* ; Capucine Yellow

(L. 8, Pl. 9); flavour pleasant; taste medium sweet when raw and also when ripe; juice fairly abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium as a raw fruit and medium to poor as a dessert fruit; bearing medium and early; badly susceptible to hoppers and winds; keeping quality good to medium.

VARIETY—*Kondiah Mamidi* (Kadiyam).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld, moderately reflexed. *Emerging leaves Saccardos Umber* (L. 9, Pl. 14), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Absinthe Green* (L. 1, Pl. 13).

Inflorescence medium, Rose Red (K. 5, Pl. 4), moderately puberulent, *stamens equal and oblique to pistil*, staminodes poorly developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal and rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Empire Yellow (K. 3, Pl. 9), dots medium, moderately distant, flesh soft, Capucine Yellow (L. 8, Pl. 9); *moderately fibrous, fibre medium and soft*, flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with long, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly resistant to winds and hoppers; keeping quality medium.

VARIETY—*Kharjur* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick. Leaves outheld, slightly reflexed. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Isabella Color* (L. 7, Pl. 15), *turning Mignonne Green* (L. 4, Pl. 14).

Inflorescence medium, Yellow Green (L. 4, Pl. 19), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak out-curved; *sinus shallow*; apex rounded; skin medium-thick, Empire Yellow (K. 3, Pl. 9); flesh soft, Cadmium Yellow (L. 7,

Pl. 9), *moderately fibrous, fibre medium to soft*; flavour pleasant, taste sweet; juice abundant to fairly plentiful.

Stone oblong, covered with long, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality good; bearing medium, mid-season. moderately susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Israli Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium thick; Leaves outheld, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Isabella Color* (F. 6, Pl. 13), *turning Light Yellowish Olive* (K. 2, Pl. 13).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong elliptic*; base tapering; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal; ventral shoulder sloping, dorsal shoulder sloping abruptly; beak out-curved; *sinus shallow*; apex broadly pointed; skin thick, Primuline Yellow (L. 5, Pl. 10); dots small, distant; flesh firm, *fibreless*, Maize Yellow (J. 2, Pl. 9); flavour mildly pleasant; taste medium sweet; juice scant.

Stone oblong; covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing medium, mid-season; resistant to winds and hoppers; keeping quality very good.

COHORT VI—CLASS II

Fruits markedly long with beak distinct or prominent, Leaves with acute tip and slightly folded.

Inflorescence conical.	Inflorescence broadly pyramidal.	Inflorescence pyramidal.
Leaves ovate lanceolate. Mettavalasa Peechamanu.	Leaves ovate lanceolate. Nil.	Leaves elliptic lanceolate. Nil.
	Leaves oval lanceolate. Jilledikayalu. Mouse. Nati Husenamma Pasand. Panakalu. Paddarasam. Safed Armini. Akirpalli Nalla Rasam. Tunikalu.	Leaves elliptic lanceolate. Nil.
Leaves ovate lanceolate. Nil.	Leaves oval lanceolate. Abbasi. Bokkudumanu. Bobri. Rajumanu. Sunneri. Nagulapalli Irsala.	Leaves elliptic lanceolate. Nil.

PLATE XXXIII.

COHORT VI—CLASS II.

Fruits markedly long with a distinct to prominent beak. Leaves with acute tip and slightly or strongly folded.

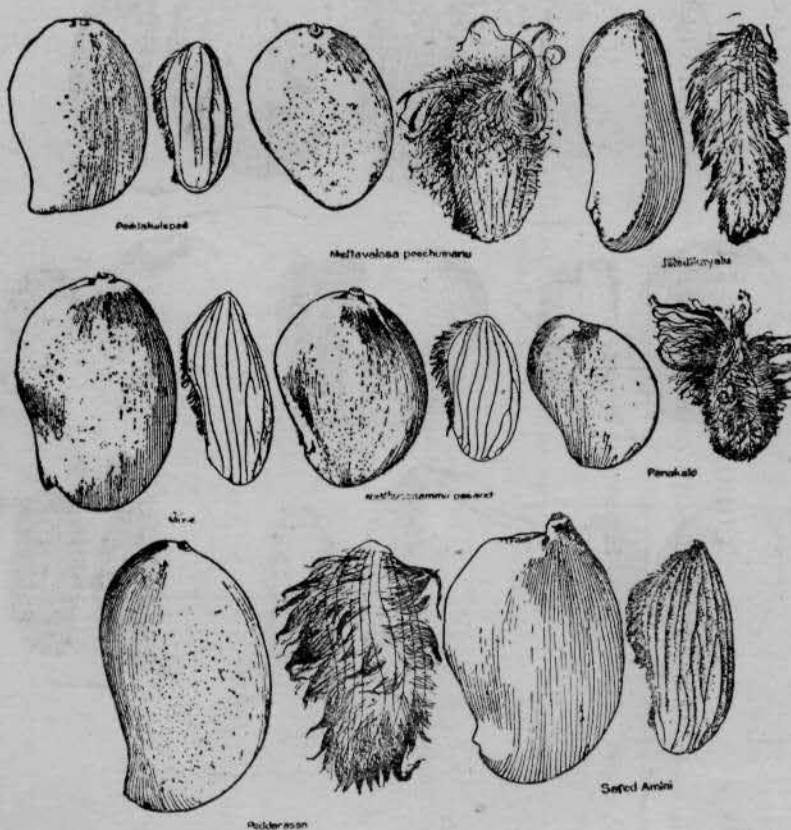
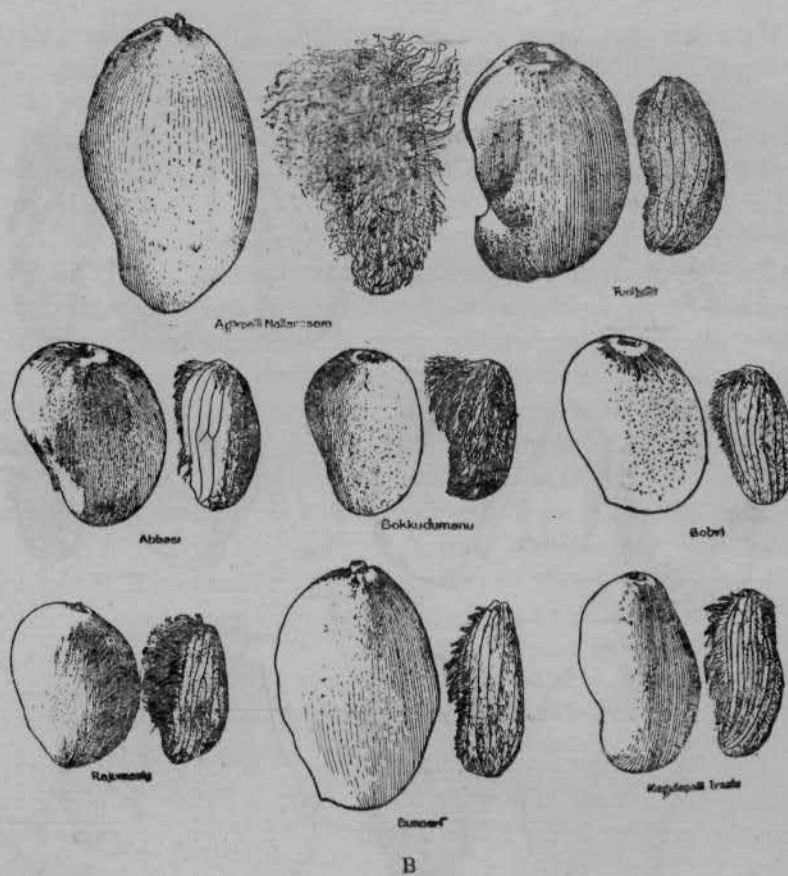


PLATE XXXIII—cont



COHORT VI—CLASS II

*Fruits markedly long with beak distinct or prominent.
Leaves with acute tip and slightly folded.*

VARIETY—*Pedda Kalepad* (Kodur).

SYNONYM—Nil.

Tree medium to small, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Ecu Olive* (L. 4, Pl. 14), *immature growing leaves Orange Citrine* (L. 7, Pl. 15), *turning Prouts Brown* (K. 8, Pl. 15).

Inflorescence medium, Coral Pink (K. 3, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium to large, oblong*; base rounded; stalk inserted squarely, *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus shallow*; apex rounded; skin medium-thick. Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour delightful; taste very sweet. Juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly to prominently raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Mettavalasa Peechamanu* (Bobbili).

SYNONYM—Nil.

Tree large, top oval, shoots thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Antique Brown* (J. 9, Pl. 14), *immature growing leaves Kâiser Brown* (A. 12, Pl. 14), *turning Fawn Colour* (J. 10, Pl. 13).

Inflorescence large, Pomegranate Purple (J. 4, Pl. 4), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong oval*, base rounded, stalk inserted squarely; *cavity absent*; ventral shoulder broader and higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin membranous, Capucine Orange (I. 6, Pl. 9), dots medium and close; flesh firm, Lemon Chrome (L. 4, Pl. 9), *abundantly fibrous, fibre long and soft*; flavour delightful; taste sweet; juice fairly plentiful.

Stone oval, covered with long, coarse fibre all over; *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, early; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Jilledikayalu* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outtheld, slightly reflexed and folded. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Ecrú Olive* (H. 7, Pl. 15), *turning Dark Citrine* (L. 6, Pl. 15).

Inflorescence medium, Sayal Brown (C. 10, Pl. 4), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oblong reniform; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder sloping abruptly; beak prominent; *sinus shallow*; apex rounded; skin thin, Primuline Yellow (L. 6, Pl. 9); dots medium, distant; flesh soft, Primuline Yellow (L. 6, Pl. 10); *moderately fibrous, fibre medium, soft*; flavour pleasant; taste sweet.

Stone oblong, covered with medium, soft fibre all over; *veins parallel and slightly depressed to grooved*.

Fruit quality medium to good; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality fair.

VARIETY—*Mouse* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outtheld, slightly reflexed. *Emerging leaves Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Dark Citrine* (L. 6, Pl. 14), *turning Orange Citrine* (K. 7, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder level and broader than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak prominent; *sinus slight*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, distant; flesh firm, *fibreless*, Baryta Yellow (I. 2, Pl. 9); flavour disagreeable; taste medium sweet; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over; *veins parallel and slightly raised*.

Fruit quality poor ; bearing medium, mid-season ; moderately susceptible to winds and hoppers ; keeping quality medium.

VARIETY—*Nati Husenamma Pasand* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld slightly reflexed and folded. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Grape Green* (K. 4, Pl. 13).

Inflorescence medium, Dark Vinaceous (H. 9, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral-shoulder rounded, dorsal shoulder ending in a long curve ; beak slight but distinct ; *sinus slight* ; apex rounded ; skin medium thick, *Light Cadmium* (L. 6, Pl. 9) ; dots small, close ; flesh soft, *fibreless*, *Empire Yellow* (K. 2, Pl. 9) ; flavour delightful ; taste very sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over ; *veins forked and slightly raised*.

Fruit quality good ; bearing heavy, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Panakalu* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Mineral Green* (L. 3, Pl. 20), *immature growing leaves Ecu Green* (L. 5, Pl. 14), *turning Old Gold* (H. 6, Pl. 14).

Inflorescence medium, Viridine Green (K. 2, Pl. 19), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak distinct ; *sinus slight to shallow* ; apex rounded ; skin medium-thick, *Deep Chrome* (L. 7, Pl. 10) ; dots medium, close ; flesh firm, *Capucine Yellow* (L. 8, Pl. 10) ; *moderately fibrous, fibre long and soft* ; flavour delightful ; taste sweet ; juice fairly plentiful.

Stone oblong, covered with soft, long fibre all over; veins slightly forked and slightly raised.

Fruit quality good; bearing heavy, very early; moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Peddarasam* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, strongly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Prouts Brown* (J. 8, Pl. 15), *turning Ecru Green* (L. 5, Pl. 15).

Inflorescence medium, Dresden Brown (J. 8, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; cavity none; ventral shoulder equal and slightly higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak mammiform; sinus shallow; apex rounded to broadly pointed; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, close; flesh soft, Capucine Yellow (L. 8, Pl. 10); *densely fibrous, fibre abundant, medium to long and coarse*; flavour pleasant; taste sweet; juice plentiful.

Stone oblong, covered with medium, coarse fibre all over; veins parallel and slightly depressed.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Safed Amini* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Cerro Green* (L. 6, Pl. 22), *turning Ecru Olive* (L. 4, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11) densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong oval; base rounded and extended; stalk inserted squarely; cavity absent; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder sloping abruptly; beak prominent, sinus shallow; apex rounded; skin thick, Light Cadmium (L. 6, Pl. 9); flesh firm, fibreless, Primuline Yellow (L. 6, Pl. 10); flavour delightful; taste very sweet; juice moderate to abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge; *veins forked and prominently raised*.

Fruit quality very good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium to good.

VARIETY—*Akirpalli Nalla Rasam* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Light Brownish Olive* (L. 11, Pl. 15), *immature growing leaves Buffy Olive* (L. 7, Pl. 15), *turning Buffy Brown* (G. 10, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens shorter and parallel to pistil*, staminodes well developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral and dorsal shoulders ending in a long curve; beak prominent; *sinus shallow*; apex broadly pointed; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small and close; flesh buttery, Primuline Yellow (L. 6, Pl. 10); *moderately fibrous, fibre moderately abundant, long and coarse*; flavour pleasant; taste moderately sweet; juice abundant.

Stone oblong, covered with moderately abundant, long, coarse fibre all over; *veins parallel and prominently raised*.

Fruit quality medium; bearing poor and early; susceptible to winds and hoppers; keeping quality poor.

VARIETY—*Tunikalu* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Light Brownish Olive* (L. 11, Pl. 15), *immature growing leaves Buffy Olive* (L. 7, Pl. 15), *turning Buffy Brown* (G. 1, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit large, oblong reniform; base rounded; stalk inserted squarely; *cavity shallow*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10), with a blush of Light Coral Red (F. 11, Pl. 12) on shoulders; dots large, moderately distant;

flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong, covered with medium, moderately abundant and soft fibre all over; *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality good to medium.

VARIETY—*Abbasi* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed and folded. *Emerging leaves Antique Brown* (L. 9, Pl. 14), *immature growing leaves Madder Brown* (L. 6, Pl. 7), *turning Vandyke Red* (L. 2, Pl. 7).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), moderately puberulent, *stamens shorter and oblique to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin thin, membranous, Pinard Yellow (L. 3, Pl. 11); dots medium; moderately distant; flesh soft, Cadmium Yellow; (L. 7, Pl. 9); *moderately fibrous, fibre medium, coarse*; flavour mildly pleasant; taste moderately sweet; juice moderate to abundant.

Stone oblong, covered with medium, coarse fibre all over; *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; fairly susceptible to winds and hoppers; keeping quality medium to poor.

VARIETY—*Bokudumanu* (Bobbili).

SYNONYM—Nil.

Tree medium, top oval, shoots medium-thick. Leaves outheld, slightly reflexed. *Emerging leaves Saccardos Umber* (I. 9, Pl. 14), *immature growing leaves Madder Brown* (L. 6, Pl. 7), *turning Vandyke Red* (L. 2, Pl. 7).

Inflorescence medium, pyramidal, Martius Yellow (J. 1, Pl. 2), moderately puberulent, *stamens shorter and oblique to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve, beak distinct; *sinus slight*; apex rounded; skin thin, membranous,

Pinard (L. 3, Pl. 11) ; dots medium, moderately distant ; flesh soft ; *moderately fibrous, fibre medium, coarse*, Cadmium Yellow (L. 7, Pl. 9) ; flavour mildly pleasant ; taste moderately sweet.

Stone oblong, covered with medium, coarse fibre all over ; *veins forked and slightly raised*.

Fruit quality medium ; bearing medium, mid-season ; fairly susceptible to winds and hoppers ; keeping quality medium to poor.

VARIETY—*Bobri* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Yellowish Oil Green* (K. 3, Pl. 4).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong oval* ; base rounded ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium, thick, Cadmium Yellow (L. 7, Pl. 10) ; dots small, close ; flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9) ; flavour slightly turpentine ; taste sweet ; juice moderately abundant.

Stone oblong, covered with medium, coarse fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium, bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Rajumanu* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Ecru Olive* (L. 4, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Saccardos Umber (L. 9, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong oblique* ; base obliquely flattened ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a moderate curve ; beak prominent ; *sinus absent* ; apex rounded ; skin thin, Light Cadmium (J. 6, Pl. 9) ; dots medium

and distant ; flesh soft, Primuline Yellow (L. 5, Pl. 9) ; *moderately fibrous, fibre medium and soft* ; flavour delightful ; taste sweet ; juice abundant to fairly plentiful.

Stone oblong, covered with medium, soft fibre all over ; *veins forked and grooved*.

Fruit quality good to medium ; bearing heavy and early ; moderately resistant to hoppers and winds ; keeping quality medium to poor.

VARIETY—*Sunneri* (Banganapalle).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded. *Emerging leaves Orange Citrine* (K. 7, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Light Jasper Red (J. 9, Pl. 4), *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct, *sinus slight* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots medium, moderately distant ; flesh firm, *fibreless*, Primuline Yellow (5, Pl. 9) ; flavour pleasant ; taste medium sweet ; juice scant.

Stone oblong, covered with short, soft fibre all over ; *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium and mid-season ; moderately susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Nagulapalli Irsala* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld, slightly reflexed and folded. *Emerging leaves Yellowish Oil Green* (K. 3, Pl. 14), *immature growing leaves Ecrú Olive* (L. 4, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), moderately puberulent, *stamens shorter than and oblique to pistil*, staminodes poorly developed.

Fruit *small, oblong reniform* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder equal and level with dorsal, ventral and dorsal shoulders ending in a long curve ; beak slight but distinct ; *sinus deep* ; apex rounded ; skin thick, Light

Cadmium (L. 6, Pl. 9) ; dots small, moderately distant ; flesh *fibreless*, Maize Yellow (L. 2, Pl. 9) ; flavour delightful ; taste very sweet.

Stone oblong, covered with medium, soft fibre all over ; *veins forked and grooved*.

Fruit quality very good ; bearing heavy, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium to fair.

COHORT VI—CLASS III

Fruits markedly long with beak distinct or prominent. Leaves with sub-acuminate tip and flat.

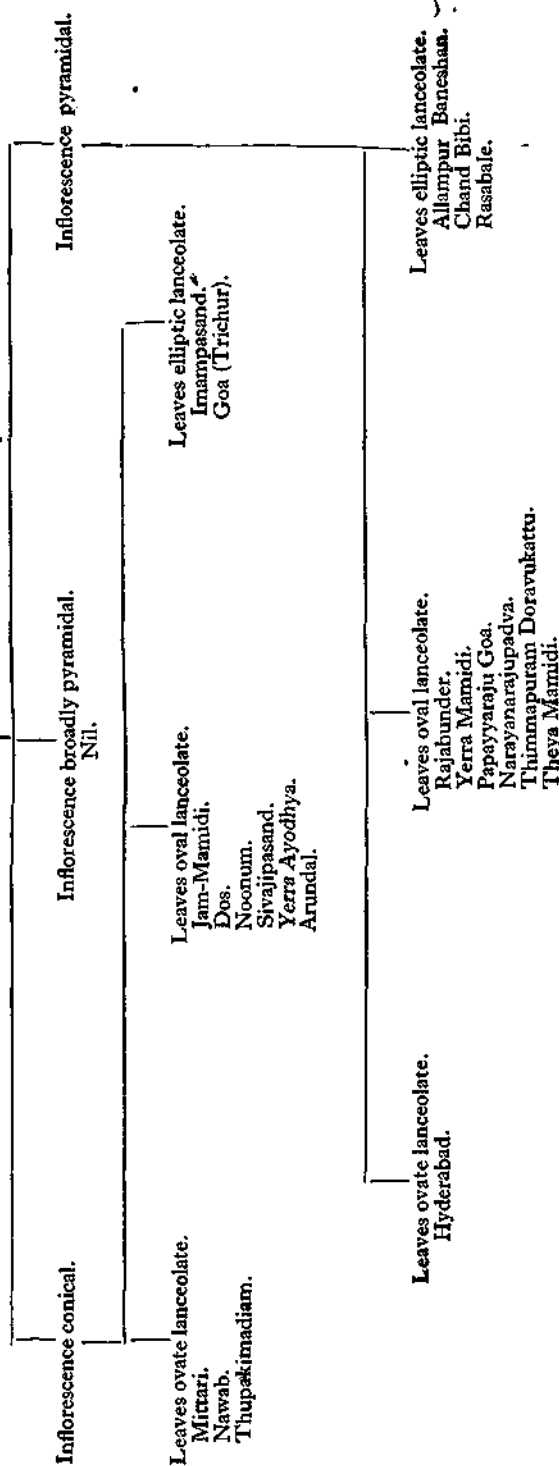
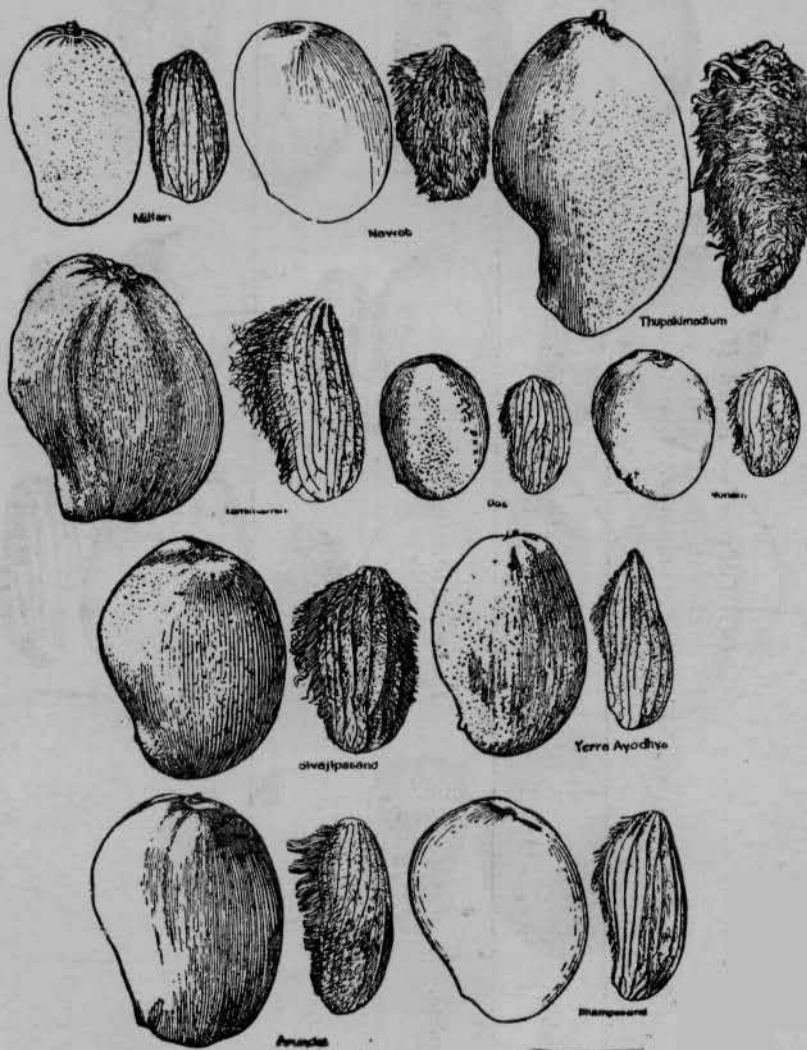


PLATE XXXIV.

COHORT VI—CLASS III.

Fruits markedly long with a distinct to prominent beak. Leaves with sub-acuminate to acuminate tip and flat.



COHORT VI—CLASS III

*Fruits markedly long with a distinct or prominent beak.
Leaves with sub-acuminate to acuminate tip and flat.*

VARIETY—*Mittari* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Orange Citrine* (K. 7, Pl. 14), *turning Yellowish Oil Green* (K. 3, Pl. 14).

Inflorescence medium, Martius Yellow (J. 1, Pl. 11), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oblong; base rounded; stalk inserted squarely; *cavity slight*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight* to shallow; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, moderately distant; flesh soft, light Cadmium Yellow (L. 6, Pl. 9), *moderately fibrous, fibre medium and soft*, flavour pleasant, taste medium sweet. Juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins slightly forked and raised*.

Fruit quality medium, bearing medium and mid-season, moderately resistant to winds and hoppers; keeping quality medium.

VARIETY—*Nawab* (Banganapalli).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Orange Citrine* (K. 7, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large to medium, oblong; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots small, distant; flesh firm, *fibreless*, Baryta Yellow (I. 2, Pl. 9); flavour disagreeable; taste insipid; juice fairly abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality poor; bearing medium, mid-season; susceptible to winds and hoppers; keeping quality poor.

VARIETY—*Thupakimadiam* (Nuzwid).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Mignonne Green* (L. 1, Pl. 14), *immature growing leaves Sudan Brown* (H. 8, Pl. 14), *turning Citrine* (J. 7, Pl. 14).

Inflorescence medium, *Lumiere Green* (J. 1, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong reniform*; base tapering; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder ending in a long curve; dorsal shoulder sloping abruptly; beak mammiform; *sinus shallow*; apex broadly pointed; skin medium-thick, *Primuline Yellow* (L. 5, Pl. 9); dots small, moderately distant; flesh buttery, *fibreless*, *Lemon Chrome* (L. 4, Pl. 9); flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with medium, coarse fibre all cover, *veins forked and slightly raised*.

Fruit quality medium, bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality medium to poor.

VARIETY—*Jami Mamidi* (Bobbili).

SYNONYM—*Kantulu Jami*.

Tree medium, top oval, shoots medium-thick. Leaves out-held, slightly reflexed, wavy with sub-acuminate tip. *Emerging leaves Sudan Brown* (L. 11, Pl. 14), *immature growing leaves Medial Bronze* (L. 9, Pl. 15), *turning Hellebore Green* (L. 2, Pl. 15).

Inflorescence medium, *Etruscan Red* (J. 2, Pl. 5); moderately puberulent; *stamens longer than and parallel to pistil*, staminodes poorly developed.

Fruit *large, oblong oblique*; base obliquely rounded; stalk inserted squarely; *cavity slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus shallow*, apex rounded, skin medium-thick, *Primuline Yellow* (L. 5, Pl. 10); dots medium, distant; flesh soft, *fibrous fibre long and soft*, *Deep Chrome* (L. 7, Pl. 9); flavour pleasant, taste medium sweet.

Stone oblong, covered with medium to long, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium, bearing mid-season, fairly susceptible to sooty moulds and winds; keeping quality medium.

VARIETY—*Dos* (Mangalore).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Isabella Color* (L. 7, Pl. 14), *immature growing leaves Saccardos Umber* (L. 9, Pl. 14), *turning Dresden Brown* (L. 10, Pl. 14).

Inflorescence medium, *Cosse Green* (L. 2, Pl. 21), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to small*, oblong oval, base rounded, stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, *Cadmium Yellow* (L. 7, Pl. 9); dots small, close; flesh buttery, *fibreless*, *Orange* (L. 9, Pl. 9); flavour aromatic; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; resistant to winds and hoppers; keeping quality fair.

VARIETY—*Noonum* (Chittoor).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Rainette Green* (L. 3, Pl. 14), *immature growing leaves Rainette Green* (L. 3, Pl. 14).

Inflorescence medium, *Isabella Color* (J. 9, Pl. 14), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, oval*, base rounded; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak prominent; *sinus slight*, apex rounded; skin medium-thick, *Light Cadmium* (L. 6, Pl. 9); dots small, moderately distant; flesh soft, *fibreless*, *Primuline Yellow* (L. 6, Pl. 10); flavour pleasant; flesh soft; *fibreless*, *Primuline Yellow* (L. 9, Pl. 10); flavour pleasant; taste medium sweet; juice moderately abundant.

Stone small, oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium to poor; bearing medium, mid-season; moderately susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Shivajipasand* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Orange Citrine* (K. 7, Pl. 14), *immature growing leaves Citrine* (L. 6, Pl. 14), *turning Mignonette Green* (L. 1, Pl. 14).

Inflorescence medium, Light Jasper Red (L. 9, Pl. 4), *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, oblong; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9); dots medium, moderately distant; flesh firm, *fibreless*, Primuline Yellow (L. 5, Pl. 9), flavour pleasant; taste medium sweet; juice fairly abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality medium; bearing medium, mid-season; moderately susceptible to winds and hoppers; keeping quality medium.

VARIETY—*Yerra Ayodhya* (Chandragiri).

SYNONYM—Nil.

Tree medium to large, top oval, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Deep Chrysolite Green* (L. 2, Pl. 13), *turning Lime Green* (L. 2, Pl. 12).

Inflorescence large, Russet Vinaceous (E. 10, Pl. 5), moderately puberulent, *stamens shorter than and parallel to pistil*, staminodes well developed.

Fruit large, oblong, base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus shallow*; apex rounded; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) with Light Coral Red (E. 11, Pl. 2) on shoulders; dots small and moderately distant; flesh firm, *fibreless*, Primuline Yellow (L. 5, Pl. 9); flavour delightful, taste very sweet; juice moderate to abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good ; bearing medium to poor, mid-season ; fairly resistant to hoppers and winds ; keeping quality good.

VARIETY—*Arundal* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Ecrú Olive* (L. 4, Pl. 14), *immature growing leaves Ecrú Olive* (L. 4, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence large, Cosse Green (L. 2, Pl. 21), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong oval* ; base rounded ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve ; beak prominent ; *sinus slight* ; apex rounded ; skin thick, Primuline Yellow (L. 5, Pl. 10) with a blush of Light Coral Red on shoulders (F. 11, Pl. 2) ; dots medium, moderately distant ; flesh firm, Primuline Yellow (L. 5, Pl. 10) ; *fibrous, fibre medium and soft* ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong ; covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season, moderately resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Imampasand* (Kadium).

SYNONYM—*Himampasand, Himayuddin*.

Tree medium, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Orange Citrine* (L. 7, Pl. 15), *immature growing leaves Acajou Red* (L. 7, Pl. 6), *turning Light Seal Brown* (L. 8, Pl. 8).

Inflorescence large, Acajou Red (K. 4, Pl. 6), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *large, obliquely oval* ; base obliquely flattened ; stalk inserted squarely ; *cavity none* ; ventral shoulder broader and higher than dorsal ; ventral shoulder rising and then rounded, dorsal shoulder sloping ; beak distinct ; *sinus absent* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots small and distant ; flesh firm, *fibreless*, Empire Yellow (K. 2, Pl. 9) ; flavour piquant ; taste very sweet ; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality very good ; bearing poor to medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality very good.

VARIETY—Goa (Trichur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Madder Brown* (L. 7, Pl. 7), *immature growing leaves Capucine Yellow* (L. 8, Pl. 10), *turning Brick Red* (E. 12, Pl. 7).

Inflorescence medium, Spinel Red (I. 4, Pl. 5), sparsely puberulent, *pistil longer than and parallel to stamens*, staminodes poorly developed.

Fruit *large, asymmetrically oval* ; base obliquely rounded and slightly extended ; stalk inserted obliquely ; *cavity absent* ; shoulders level, ventral shoulder rounded and markedly broader than dorsal, dorsal shoulder sloping ; beak out-curved ; apex broadly pointed ; *sinus slight* ; skin rough, thick, Primuline Yellow (L. 6, Pl. 10) ; moderately fibrous, *fibre medium and soft* ; flavour turpentine ; taste flat ; moderately juicy.

Stone oblong, covered with medium and soft fibre all over, *veins forked and slightly to prominently raised*.

Fruit quality medium to poor ; bearing heavy and early. Badly affected by hoppers and winds ; keeping quality medium.

VARIETY—Hyderabad (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld, with sub-acuminate tip, slightly reflexed. *Emerging leaves Isabella Color* (K. 6, Pl. 13), *immature growing leaves Mikado Brown* (F. 8, Pl. 13), *turning Yellowish Citrine* (L. 3, Pl. 13).

Inflorescence medium, Deep Corinthian Red (J. 4, Pl. 6), sparsely puberulent, *stamens longer than and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate reniform* ; base slightly flattened ; stalk inserted squarely ; *cavity slight to shallow* ; beak distinct ; shoulders equal and level, ventral shoulder rounded, dorsal ending in a moderate curve ; *sinus slight to shallow*, apex rounded ; dots small and close ; skin thick and tough. Mustard Yellow (L. 3, Pl. 9) ; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 10) ; flavour pleasant ; moderately sweet ; juice moderately abundant.

Stone oblong ; covered with sparse, soft fibre all over ; *veins forked and slightly depressed*.

Fruit quality medium to good, bearing medium and early, susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Rajabunder* (Panyam).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Grape Green* (L. 2, Pl. 14), *immature growing leaves Deep Chrysolite Green* (L. 2, Pl. 13), *turning Lime Green* (L. 2, Pl. 12).

Inflorescence medium, Russett Vinaceous (E. 10, Pl. 5), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak mammiform ; *sinus slight* ; apex rounded, skin medium-thick, Primuline Yellow (L. 5, Pl. 9) ; dots small, moderately distant ; flesh firm, Yellow Ochre (J. 5, Pl. 11) ; *fibrous, fibre medium and coarse*, flavour pleasant ; taste sour ; juice moderately abundant.

Stone oblong, covered with medium, coarse fibre all over, *veins forked and slightly depressed*.

Fruit quality poor ; bearing medium, mid-season ; fairly susceptible to sooty mould and winds ; keeping quality medium.

VARIETY—*Yerra Mamidi* (Nuzvid).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Snuff Brown* (I. 9, Pl. 11), *immature growing leaves Liver Brown* (L. 1, Pl. 15), *turning Kaiser Brown* (J. 8, Pl. 7).

Inflorescence medium, Brick Red (J. 8, Pl. 5), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *small, oblong* ; base rounded ; stalk inserted squarely *cavity absent* ; beak distinct ; *sinus slight* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots small, close ; flesh firm, *fibreless*, Lemon Chrome (L. 4, Pl. 9) ; flavour pleasant, taste very sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and grooved*.

Fruit quality medium ; bearing medium, mid-season ; fairly resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Papayyaraju Goa* (Kadium).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Medal Bronze* (L. 8, Pl. 15), *immature growing leaves Ochre Red* (E. 11, Pl. 6), *turning Dresden Brown* (L. 10, Pl. 14).

Inflorescence medium, Corinthian Red (K. 2, Pl. 5), densely puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit medium, oblong oval ; base slightly flattened ; stalk inserted squarely ; *cavity slight* ; beak out-curved ; *sinus shallow* ; shoulders equal, ventral slightly higher than dorsal and rounded, dorsal ending in a moderate curve ; apex rounded ; skin medium-thick, leathery, smooth, Primuline Yellow (L. 6, Pl. 10) ; dots small, moderately distant, flesh soft, *fibreless*, Cadmium Yellow (L. 7, Pl. 9) ; flavour delightful ; taste sweet, moderately juicy.

Stone oblong oval, covered with sparse, short, soft fibre all over, *veins forked and grooved*.

Fruit quality good ; bearing heavy early ; resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Narayanarajupadva* (Alamanda).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Mignonette Green* (L. 1, Pl. 14), *turning Liver Brown* (L. 1, Pl. 15).

Inflorescence medium, Geranium Pink (H. 9, Pl. 3), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit medium, oblong oval ; base rounded ; stalk inserted squarely ; *cavity none* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak prominent ; *sinus slight* ; apex rounded ; skin medium-thick, Light Cadmium (L. 6, Pl. 9) ; dots medium, close ; flesh soft, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour pleasant ; taste medium sweet, juice abundant.

Stone oblong, covered with short, soft fibre all over and medium on the ventral edge, *veins parallel and slightly raised*.

Fruit quality medium ; bearing heavy, early, moderately susceptible to winds and hoppers, *keeping quality medium*.

VARIETY—*Thimmapuram Doravukattu Theya Mamidi*
(Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed. *Emerging leaves Claret Brown* (L. 10, Pl. 7), *immature growing leaves Emerald Green* (L. 12, Pl. 17), *turning Antique Brown* (L. 9, Pl. 14).

Inflorescence medium, Brussels Brown (H. 10, Pl. 15), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong*; base rounded; stalk inserted squarely, *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak distinct; *sinus slight*; apex rounded; skin medium-thick, Primuline Yellow (L. 5, Pl. 9); dots medium, close; flesh soft, Primuline Yellow (L. 6, Pl. 10), moderately fibrous, *fibre long and soft*; flavour pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly raised*.

Fruit quality medium; bearing heavy, mid-season; fairly susceptible to winds and hoppers; keeping quality fair to medium.

VARIETY—*Allampur Baneshan* (Kodur).

SYNONYM—Nil.

Tree medium, top rounded, shoots slender. Leaves upheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Medal Bronze* (L. 9, Pl. 15), *immature growing leaves Pansy Purple* (L. 4, Pl. 56), *turning Orange Cinnamon* (K. 12, Pl. 6).

Inflorescence medium, coloured Empire Yellow (L. 2, Pl. 10), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, obliquely oblong oval*; base obliquely flattened; stalk inserted obliquely; *cavity slight*, ventral shoulder broader and higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder sloping; beak slight but distinct, *sinus slight*, apex rounded; skin thin, membranous, Primuline Yellow (L. 6, Pl. 10), dots small and close; flesh firm, *fibreless*, Maize Yellow (J. 2, Pl. 9), flavour delightful; taste very sweet; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality very good to best; bearing poor to medium, mid-season; fairly resistant to winds and hoppers; keeping quality good.

VARIETY—*Chand Bibi* (Pithapuram).

SYNONYM—Nil.

Tree medium, top rounded, shoots thick. Leaves outheld with sub-acuminate tip, slightly reflexed. *Emerging leaves Verona Brown* (L. 12, Pl. 15), *immature growing leaves Forest Green* (L. 11, Pl. 15), *turning Dresden Brown* (B. 10, Pl. 14).

Inflorescence medium, Viridine Green (K. 2, Pl. 19), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate oblong*; base slightly flattened and extended; stalk inserted squarely; *cavity absent*; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak prominent; apex rounded; *sinus shallow*; skin medium-thick, Primuline Yellow (L. 6, Pl. 10); dots medium, moderately distant; flesh firm, Apricot Yellow (L. 4, Pl. 10); *slightly fibrous, fibre short and coarse*; flavour pleasant; taste sweet; moderately juicy.

Stone oblong; covered with coarse, short fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium, bearing heavy, mid-season; resistant to hoppers and winds; keeping quality good.

VARIETY—*Rasabale* (Moodabidri).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots slender. Leaves out-held, with sub-acuminate tip, slightly reflexed. *Emerging leaves Mignonette Green* (L. 1, Pl. 22), *immature growing leaves Mignonette Green* (L. 1, Pl. 22), *turning Collisette Green* (L. 2, Pl. 16).

Inflorescence medium, Russet Vinaceous (E. 10, Pl. 5), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oblong oblique*; base obliquely rounded, slightly extended; stalk inserted obliquely; *cavity slight*; ventral shoulder broader and higher than dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak prominent; *sinus slight*; apex rounded, skin rough and thick, tenaceous, Primuline Yellow (L. 5, Pl. 10); dots small, distant; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9); flavour delightful; taste sweet to very sweet; juice moderately abundant.

Stone oblong, covered with sparse, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality good; bearing medium and late, resistant to hoppers and winds; keeping quality good.

COHORT VI—CLASS IV

Fruits markedly long with beak distinct or prominent. Leaves with sub-acuminate to acuminate tip and slightly or strongly folded.

Inflorescence conical.	Inflorescence broadly pyramidal. Pedda Khader.	Inflorescence pyramidal.
Leaves ovate lanceolate. Nil.	Leaves oval lanceolate. Amlet. Chudigola. Jalibundha. Mukkurasam. Giddalur Armini.	Leaves elliptic lanceolate. Alphan.
Leaves ovate lanceolate. Nil.	Leaves oval lanceolate. Dophalla. Khudabad Long. Kalakanda. Mokka Banganapalli. Pedda Neelum. Wallajahrasand. Doodia Mulgoa. Begumpasand. Padiri. Sarkar Kilinuk.	Leaves elliptic lanceolate. Nil.

PLATE XXXV.

COHORT VI—CLASS IV.

Fruits markedly long with a distinct or prominent beak. Leaves with sub-acuminate to acuminate tip and slightly or strongly folded.

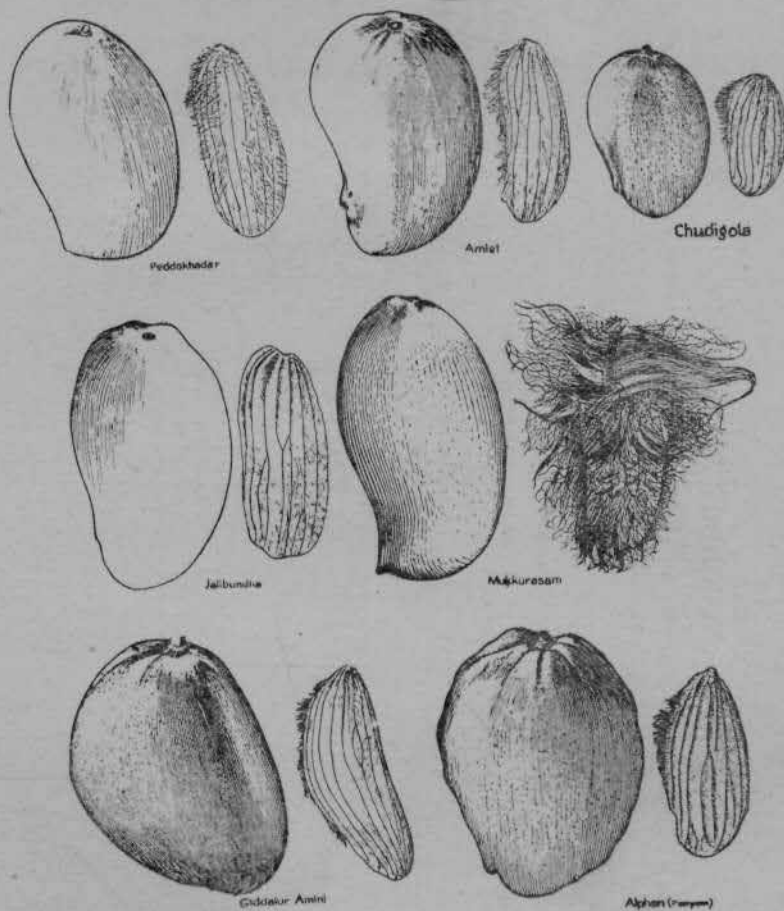
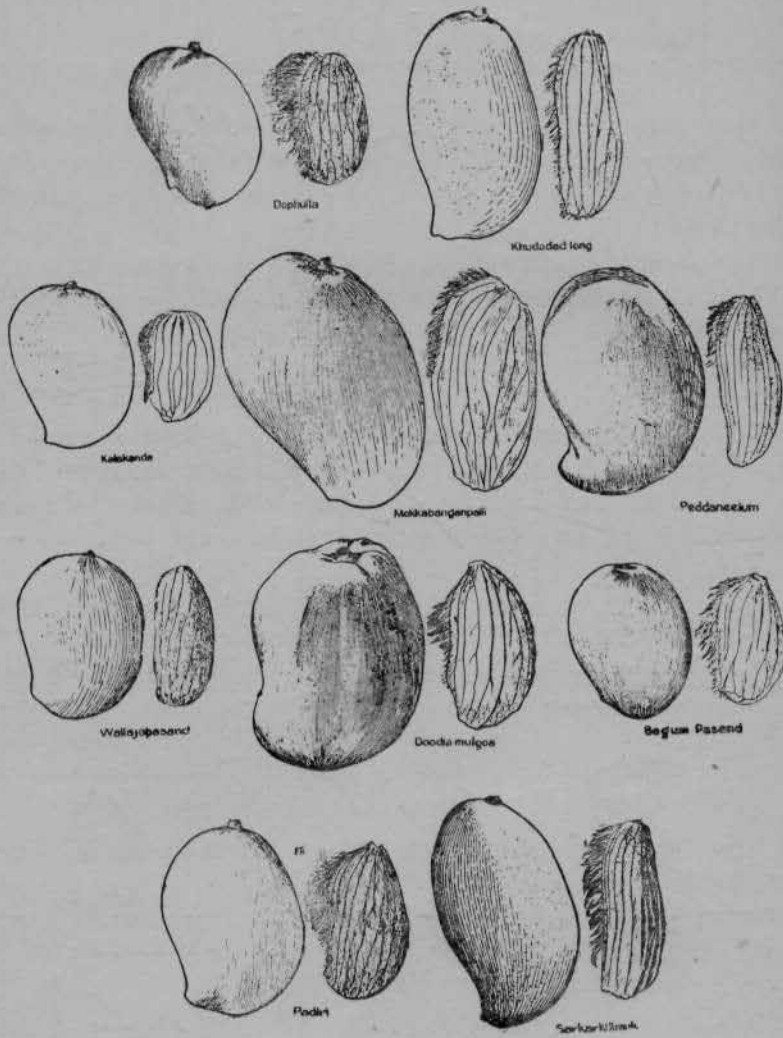


PLATE XXXV—cont.



COHORT VI—CLASS IV

Fruits markedly long with a distinct or prominent beak.

Leaves with sub-acuminate to acuminate tip and slightly or strongly folded.

VARIETY—*Pedda Khader* (Kodur).

SYNONYM—Nil.

Tree large, top rounded, shoots medium-thick. Leaves out-held, moderately reflexed. *Emerging leaves Sinus Green* (K. 1, Pl. 13), *immature growing leaves Cource Green* (I. 2, Pl. 12), turning *Lime Green* (K. 1, Pl. 12).

Inflorescence medium, Ecrú Green (I. 5, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong oblique; base obliquely rounded; stalk inserted obliquely; *cavity none*; ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus slight*; apex rounded; skin medium-thick, Capucine Yellow (L. 8, Pl. 9); dots small, close; flesh firm, *fibreless*, Capucine Yellow (L. 8, Pl. 10); flavour pleasant; taste sweet juice; moderate to abundant.

Stone oblong, covered with short, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Amlet* (Kodur).

SYNONYM—*Manoranjani* (Panyam), *Hamlet* (Salem).

Tree large, top dome shaped, shoots medium-thick. Leaves out-held with acuminate tip, moderately reflexed and slightly folded. *Emerging leaves Isabella Colour* (L. 7, Pl. 14), *immature growing leaves Medal Bronze* (L. 8, Pl. 15), turning *Olive Lake* (L. 5, Pl. 13).

Inflorescence medium, Yellowish Oil Green (K. 3, Pl. 14), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit large, ovate reniform; base slightly flattened; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak prominent; *sinus shallow*; apex broadly pointed; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) with a blush of Corinthian Red (G. 11, Pl. 12) on shoulders; dots small,

moderately distant ; flesh soft, *fibreless*, Primuline Yellow (L. 5, Pl. 9) ; flavour pleasant ; taste sweet ; juice abundant.

Stone oblong, covered with medium, soft fibre all over, *veins slightly to prominently raised and forked*.

Fruit quality good ; bearing medium to poor, mid-season ; fairly resistant to winds and hoppers ; keeping quality medium.

VARIETY—*Chudigola* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Spectrum Red (L. 10, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *small, oval* ; base rounded ; stalk inserted squarely ; *cavity none* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin thin, Cadmium Yellow (L. 7, Pl. 9) ; dots medium, moderately distant ; flesh firm, *fibreless*, Apricot Yellow (K. 4, Pl. 9) ; flavour pleasant ; taste sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing medium, mid-season ; moderately susceptible to hoppers and winds ; keeping quality medium to good.

VARIETY—*Jalibundha* (Trichur).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Ecrú Olive* (L. 4, Pl. 14), *immature growing leaves Dresden Brown* (B. 7, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence large, Testaceous (F. 10, Pl. 14), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *large, oblong* ; base rounded ; stalk inserted squarely ; *cavity shallow* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin thick, Light Cadmium (L. 6, Pl. 9) ; dots medium, distant ; flesh soft, *fibreless*, Cadmium

Yellow (L. 7, Pl. 9), flavour mild ; taste sour ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and grooved*.

Fruit quality poor ; bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality fair to medium.

VARIETY—*Mukkurasam* (Pithapuram).

SYNONYM—Nil.

Tree large, top oval, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Orange Citrine* (K. 7, Pl. 14), *immature growing leaves Dull Citrine* (K. 4, Pl. 14), *turning Ecu Olive* (L. 4, Pl. 14).

Inflorescence medium, Lime Green (K. 1, Pl. 12), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit large, oblong ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal, ventral shoulder sloping abruptly ; beak out-curved ; *sinus slight*, apex rounded ; skin medium-thick ; Deep Chrome (L. 7, Pl. 10) ; dots small, moderately distant ; flesh soft, Cadmium Yellow (L. 7, Pl. 9) ; *densely fibrous, fibre long and coarse* ; flavour pleasant ; taste sweet ; juice fairly plentiful.

Stone oblong, covered with long, coarse fibre all over, *veins parallel and slightly depressed*.

Fruit quality good ; bearing medium, mid-season ; moderately resistant to winds and hoppers ; keeping quality medium to poor.

VARIETY—*Giddalur Amini* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick, leaves out-held, slightly reflexed and folded with sub-acuminate tip. *Emerging leaves Hellebore Green* (L. 4, Pl. 15), *immature growing leaves Orange Citrine* (E. 7, Pl. 14), *turning Citrine* (L. 6, Pl. 14).

Inflorescence medium, Cosse Green (L. 2, Pl. 20), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, obliquely oval ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus absent* ; apex rounded ; skin medium-thick, Deep Chrome (L. 7, Pl. 10) ; dots medium, close ; flesh firm, *fibreless*, Empire Yellow (K. 3, Pl. 9) ; flavour pleasant ; taste moderately sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins slightly raised and forked*.

Fruit quality medium ; bearing medium, mid-season ; moderately resistant to hoppers and winds ; keeping quality medium.

VARIETY—*Alphan* (Panyam).

SYNONYM—Nil.

Tree medium, top oval, shoots slender, leaves outheld with sub-acuminate tip, folded, slightly reflexed. *Emerging leaves Cobra Brown* (L. 6, Pl. 8), *immature growing leaves Absinthe Green* (E. 12, Pl. 7).

Inflorescence medium, Absinthe Green (L. 1, Pl. 13), moderately puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *large, ovate oblong* ; base slightly flattened and extended ; stalk inserted squarely ; *cavity shallow* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a wide curve ; beak slightly prominent ; *sinus slight* ; skin rough to warty, thick, Primuline Yellow (L. 5, Pl. 10) ; dots medium, moderately distant ; flesh firm and *fibreless*, Mustard Yellow (J. 3, Pl. 9) ; flavour pleasant ; taste sweet ; moderately juicy.

Stone oblong, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality medium to good ; bearing poor, mid-season ; resistant to hoppers and susceptible to winds ; keeping quality medium.

VARIETY—*Dophalla* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with acuminate tip, slightly reflexed and folded. *Emerging leaves Yellowish Citrine* (L. 3, Pl. 13), *immature growing leaves Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Brick Red (H. 9, Pl. 7), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium, obliquely oval* ; base rounded ; stalk inserted squarely ; *cavity absent* ; ventral shoulder higher than and equal to dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Yellow Ochre (L. 7, Pl. 11) ; dots medium, distant ; flesh soft, primuline Yellow (L. 6, Pl. 10) ; moderately

fibrous, fibre medium and coarse; flavour delightful; taste sweet; juice abundant.

Stone oblong oval, covered with medium, coarse fibre all over, veins forked and slightly depressed.

Fruit quality very good; bearing medium in two crops—mid- and off-season; moderately resistant to hoppers and winds; keeping quality good.

VARIETY—*Khuddadad Long* (Trichur).

SYNONYM—Nil.

Tree large, top dome shaped, shoots slender. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Ecrú Green* (L. 5, Pl. 14), *immature growing leaves Isabella Color* (L. 7, Pl. 15), *turning Olive Lake* (L. 3, Pl. 13).

Inflorescence medium, Lettuce Green (L. 5, Pl. 21), scarcely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium oblong*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; beak distinct; *sinus slight*; apex rounded; skin thick, Primuline Yellow (L. 5, Pl. 9); dots large, close; flesh soft, Empire Yellow, (J. 4, Pl. 10); moderately *fibrous, fibre medium and soft*; flavour pleasant; taste medium sweet; juice moderate to abundant.

Stone oval, covered with medium, soft fibre all over, veins forked and *prominently raised*.

Fruit quality medium; bearing medium, late, fairly resistant to hoppers and winds; keeping quality medium.

VARIETY—*Kalakanda* (Trichur).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, strongly reflexed, twisted and slightly folded. *Emerging leaves Ecrú Olive* (L. 4, Pl. 14), *immature growing leaves Saccardos Umber* (L. 9, Pl. 14), *turning Ecrú Green* (L. 5, Pl. 14).

Inflorescence large, Coral Pink (I. 3, Pl. 3), moderately puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *small, oblong*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak out-curved; *sinus slight*; apex rounded; skin medium-thick, Wax Yellow (L. 5, Pl. 11); dots medium, moderately distant; flesh firm,

Cadmium Yellow (L. 7, Pl. 9); flavour mildly pleasant; taste moderately sweet; juice moderately abundant.

Stone oblong oval, covered with medium, soft fibre all over and long, soft fibre on the ventral edge; *veins forked and slightly raised*.

Fruit quality medium to poor; bearing medium, mid-season; moderately resistant to hoppers and winds; keeping quality medium to poor.

VARIETY—*Mokka Banganapalli* (Bobbili).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Deep Chrysolite Green* (L. 2, Pl. 13), *immature growing leaves Buffy Citrine* (L. 8, Pl. 15), *turning Olive Lake* (L. 3, Pl. 13).

Inflorescence medium, Sayal Brown (C. 10, Pl. 4), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit large, obliquely oblong; base slightly flattened; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; base prominent; *sinus slight*; apex rounded, skin medium-thick, Light Cadmium (L. 6, Pl. 9); dots medium, close; flesh soft, *fibreless*, Capucine Yellow (L. 8, Pl. 9); flavour pleasant; taste medium sweet. Juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and prominently raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Pedda Neelum* (Kodur).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Citrine* (L. 6, Pl. 14), *immature growing leaves Isabella Colour* (K. 6, Pl. 13).

Inflorescence medium, Ecu Olive (L. 4, Pl. 14), sparsely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit medium, oblong reniform; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve; beak mammiform; *sinus deep*; apex rounded; skin

medium-thick, Orange (L. 9, Pl. 9); dots medium, moderately distant; flesh firm, *fibreless*, Cadmium Yellow (L. 7, Pl. 9); flavour pleasant; taste sweet; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly raised*.

Fruit quality good; bearing medium, mid-season; moderately resistant to winds and hoppers; keeping quality good.

VARIETY—*Wallajahpasand* (Panyam).

SYNONYM—Nil.

Tree medium, top dome shaped, shoots medium-thick. Leaves outheld with sub-acuminate tip, moderately reflexed and slightly folded. *Emerging leaves Ecu Olive* (L. 4, Pl. 14), *immature growing leaves Ecu Green* (L. 5, Pl. 14), *turning Mignonette Green* (L. 2, Pl. 14).

Inflorescence medium, Acajou Red (H. 10, Pl. 4), moderately puberulent, *stamens longer than and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong oval to oval*; base rounded; stalk inserted squarely; *cavity slight*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder rounded; beak mammiform; *sinus slight*; apex rounded; skin medium-thick, Wax Yellow (L. 5, Pl. 11); dots medium, moderately distant; flesh firm, Cadmium Yellow (L. 7, Pl. 10); *sparsely fibrous, fibre medium and soft*; flavour mildly pleasant; taste medium sweet; juice moderately abundant.

Stone oblong, covered with medium, soft fibre all over, *veins parallel and slightly depressed*.

Fruit quality medium; bearing medium, mid-season; keeping quality medium to poor.

VARIETY—*Doodia Mulgoa* (Sirvel).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Mignonette Green* (L. 1, Pl. 14), *immature growing leaves Grape Green* (L. 2, Pl. 14), *turning Ecu Green* (L. 5, Pl. 14).

Inflorescence medium, Tawney Olive (B. 6, Pl. 13), densely puberulent, *stamens equal and parallel to pistil*, staminodes poorly developed.

Fruit *medium to small, oval*; base rounded; stalk inserted squarely; *cavity absent*; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a moderate

curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots small, close ; flesh buttery, *fibreless*, Orange (L. 9, Pl. 9) ; flavour aromatic ; taste medium sweet ; juice moderately abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly depressed*.

Fruit quality medium ; bearing medium, mid-season ; susceptible to winds and hoppers ; keeping quality fair.

VARIETY—*Begumpasand* (Salem).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held with sub-acuminate tip, slightly reflexed and folded. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Pyrite Yellow* (L. 1, Pl. 20), *turning Mineral Green* (L. 3, Pl. 20).

Inflorescence medium, Green Cinnamon (C. 4, Pl. 3), densely puberulent, *stamens shorter than and parallel to pistil*, staminodes poorly developed.

Fruit *medium, oval* ; base rounded ; stalk inserted squarely ; *cavity slight* ; ventral shoulder equal and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus slight* ; apex rounded ; skin medium-thick, Primuline Yellow (L. 6, Pl. 10) ; dots small, close ; flesh firm, *fibreless*, Primuline Yellow (L. 6, Pl. 10) ; flavour pleasant ; taste medium sweet ; juice moderately abundant.

Stone oblong oval, covered with short, soft fibre all over and medium on the ventral edge, *veins forked and slightly depressed*.

Fruit quality medium, bearing medium, mid-season ; moderately susceptible to hoppers and winds ; keeping quality medium.

VARIETY—*Padiri* (Mayavaram).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, with acuminate tip, moderately reflexed and folded. *Emerging leaves Hellebore Green* (L. 3, Pl. 5), *immature growing leaves Medal Bronze* (L. 9, Pl. 15), *turning Isabella Colour* (L. 7, Pl. 14).

Inflorescence medium, Scarlet Red (K. 11, Pl. 3), densely puberulent, *stamens equal and parallel to pistil*, staminodes well developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity absent* ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak distinct ; *sinus shallow to slight* ; apex rounded ; skin medium-thick, leathery, Capucine

Yellow (L. 8, Pl. 10) ; with a blush of Coral Red (F. 10, Pl. 3) on shoulders ; dots small and close ; flesh firm, *fibreless*, Light Cadmium (L. 6, Pl. 9) ; flavour delightful ; taste very sweet ; juice abundant.

Stone oblong, covered with short, soft fibre all over, *veins forked and slightly to prominently raised*.

Fruit quality good, bearing medium, mid-season ; moderately susceptible to hoppers and winds ; keeping quality good.

VARIETY—*Sarkar Kilimuk* (Salein).

SYNONYM—Nil.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, slightly reflexed. *Emerging leaves Cosse Green* (L. 2, Pl. 21), *immature growing leaves Lettuce Green* (L. 3, Pl. 21), *turning Antique Brown* (L. 9, Pl. 14).

Inflorescence medium, Light Corinthian Red (F. 9, Pl. 4), moderately puberulent, *stamens equal and oblique to pistil*, staminodes well developed.

Fruit *medium, oblong* ; base rounded ; stalk inserted squarely ; *cavity none* ; ventral shoulder broader and level with dorsal, ventral shoulder rounded, dorsal shoulder ending in a long curve ; beak absent ; *sinus slight* ; apex rounded ; skin medium-thick, Cadmium Yellow (L. 7, Pl. 9) ; dots small, close ; flesh firm, *fibreless*, Apricot Yellow (K. 4, Pl. 9) ; flavour mildly pleasant ; taste sweet ; juice moderately abundant.

Stone oblong, covered with short, stiff fibre all over, *veins forked and slightly raised*.

Fruit quality good ; bearing medium, mid-season, moderately susceptible to winds and hoppers ; keeping quality medium.

XIII. UNCLASSIFIED PROGENIES

1. HYBRID PROGENY 7/5—HIMAYUDDIN × NEELUM.

This is a cross made at the Fruit Research Station, Kodur, between the choice-fruited but shy-bearing Himayuddin staminate and the prolific and regular bearing Neelum female parent. The seed was sown on 9th September 1941 and the first crop was harvested from 10th June 1946 to 29th July 1946. The yield in 1946 was 70 fruits, as against the year's average of 55 fruits per tree of Himayuddin on the station on grafts of about nine years of age.

Tree medium, top rounded, shoots medium-thick. Leaves out-held, oval lanceolate, slightly reflexed and folded with sub-acuminate tip.

Fruit is medium to large, oblong to oblong oval; base rounded with a slight extension at the stalk end; stalk inserted squarely; cavity absent; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; apex rounded; beak slightly prominent to mammiform; sinus slight to shallow; dots medium and close; skin medium-thick, leathery, Cadmium Yellow (L. 7, Pl. 9), flesh firm, fibreless, Apricot Yellow (L. 4, Pl. 9); juice moderately abundant; flavour delightful; taste very sweet.

Stone oblong, covered with short, soft fibre all over; veins forked and slightly depressed.

Fruit quality very good; bearing heavy, mid to late season; keeping quality good.

The progeny resembles Himayuddin in respect of beak, form of the fruit and quality of flesh, and Neelum in respect of vegetative characters of tree and leaf.

2. HYBRID PROGENY 9/3—HIMAYUDDIN × NEELUM.

This is also a cross made at Kodur between the choice-fruited and shy-bearing Himayuddin staminate and the prolific and regular-bearing Neelum female parent. The seed was sown on 11th December 1940 and the first crop was harvested from 19th June to 17th July 1946. The yield in 1946 was 17 fruits only as against the year's average of 55 fruits per tree of Himayuddin on the station on grafts of about nine years of age.

Tree medium, top rounded, shoots medium-thick; leaves out-held, oval lanceolate, slightly reflexed and folded with acute tip.

Fruit is small to medium, ovate oblique, base obliquely flattened to rounded; stalk inserted squarely; cavity absent; shoulders

equal, ventral higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve; apex rounded; beak a point; sinus slight to absent; dots medium, close; skin smooth, medium-thick, leathery, Primuline yellow (L. 5, Pl. 9), flesh firm, fibreless, Mustard Yellow (F. 3, Pl. 9); juice scant; flavour delightful; taste very sweet.

Stone oblong oval, covered with short, sparse fibre all over, veins forked and prominently raised.

Fruit quality very good; bearing medium, mid-to late season; keeping quality medium to good.

The progeny resembles Neelum in respect of shape of the fruit and vegetative characters, and Himayuddin in respect of quality of flesh.

5. HYBRID PROGENY 11/13—JEHANGIR × SUVARNAREKHA.

This is a cross between the choice-fruited but shy-bearing Jehangir staminate and the prolific and regular-bearing Suvarnarekha female parent. The seed was sown on 9th September 1941 and the first crop was harvested from 10th June to 22nd July 1946. The yield in 1946 was 38 fruits, as against the year's average of 20 fruits per tree of Jehangir at the Kodur Station on grafts of about nine years of age.

Tree large, top rounded, shoots slender to medium-thick. Leaves outstretched, slightly reflexed, flat, oval lanceolate with sub-acuminate tip.

Fruit large, ovate oblong; base rounded with a slight extension at the stalk end; stalk inserted squarely; cavity absent; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve; apex rounded to broadly pointed; beak distinct; sinus slight; dots medium and distant; skin thick, tough and inclined to be rough; Apricot Yellow (L. 4, Pl. 9); flesh soft, Maize Yellow (K. 3, Pl. 9); fibreless; juice abundant; flavour pleasant; taste sweet.

Stone oblong, covered with sparse, short, soft fibre all over; veins forked and prominently raised.

Fruit quality good; bearing medium to heavy, mid-to late season; keeping quality medium to poor.

The progeny resembles Suvarnarekha in respect of shape of the fruit, colour of flush on shoulders, sinus and nature of flesh, and Jehangir in respect of shape of the beak, apex and skin. In vegetative characters it is intermediate between the two parents.

4. HYBRID PROGENY 3/9—JEHANGIR × NEELUM.

This is a cross between the choice-fruited but shy-bearing Jehangir staminate and the prolific and regular-bearing Neelum

female parent. The seed was sown on 9th September 1941 and the first crop was harvested from 10th June to 17th July 1946. The yield in 1946 was 18 fruits only as against the year's average of 20 fruits per tree of Jehangir at the Kodur Fruit Station on grafts of about nine years of age.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, oval lanceolate, flat with acute tip.

Fruit is small, ovate, base rounded with slight extension of the base at the stalk end; stalk inserted squarely; cavity slight to absent; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; apex rounded; beak a point, sinus deep; dots medium to moderately distant; close; skin medium-thick, leathery, Cadmium Yellow (L. 5, Pl. 10); flesh firm, fibreless, Primuline Yellow (L. 7, Pl. 10); juice moderately abundant; flavour pleasant; taste moderately sweet.

Stone oblong oval to reniform, covered with sparse, short, soft fibre all over; veins forked and slightly depressed.

Fruit quality medium to good, bearing medium to poor; mid-to late season; keeping quality good.

The progeny is intermediate between the two parents in respect of vegetative characters and resembles Neelum in respect of the shape of the fruit, flesh and nature of dots, and Jehangir in respect of the extension of the base at the stalk end.

5. HYBRID PROGENY 7/9—NEELUM \times JEHANGIR.

This is a cross between the prolific and regular-bearing Neelum staminate and choice-fruited but shy-bearing Jehangir female parent. The seed was sown on 9th September 1941 and the first crop was harvested from 10th to 24th June 1946. The yield in 1946 was three fruits only as against the year's average of 20 fruits per tree of Jehangir on the Fruit Station at Kodur on grafts of about nine years of age.

Tree medium, top rounded, shoots medium-thick. Leaves outheld, slightly reflexed, oval lanceolate and flat with acute tip.

Fruit is medium; ovate reniform; base obliquely flattened to rounded with slight extension at the stalk end, stalk inserted obliquely; cavity absent; shoulders equal, dorsal higher than ventral, ventral shoulder rounded, dorsal shoulder ending in a moderate curve; apex rounded; beak a point; sinus deep; dots small, close; skin inclined to be warty, Apricot Yellow (L. 4, Pl. 9); flesh firm, fibreless, Maize Yellow (K. 2, Pl. 9); juice scant to moderately abundant; taste moderately sweet.

Stone oblong oval to reniform, covered with sparse, short, soft fibre all over ; veins forked and slightly depressed.

Fruit quality medium ; bearing mid-to late season ; keeping quality medium.

The progeny is intermediate between the two parents in respect of vegetative characters but resembles Neelum in respect of the nature of sinus, beak and dots, and Jehangir in wartiness of skin and extended nature of the base.

6. HYBRID² PROGENY 9/15—ALLAMPUR BANESHAN \times NEELUM.

This is a cross between the choice-fruited but moderately shy-bearing Allampur Baneshan staminate and the prolific and regular-bearing Neelum female parent. The seed was sown on 9th September 1941 and the first crop was harvested from 19th June to 25th September 1946. The yield in 1946 was only two fruits as against the year's average yield of 117 fruits per tree of Allampur Baneshan at the Fruit Research Station, Kodur, on grafts of about eight years of age.

Tree medium, top rounded, shoots slender to medium-thick. Leaves outheld, slightly reflexed, flat, oval lanceolate with acute tip.

Fruit is large, oval ; base rounded with a slight extension of the base at the stalk end ; stalk inserted squarely ; cavity absent ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; apex rounded ; beak a point ; sinus slight ; dots medium and close ; skin smooth ; leathery, medium-thick Cadmium Yellow (L. 7, Pl. 9) ; flesh firm, fibreless, Primuline Yellow (L. 5, Pl. 9) ; flavour delightful ; taste medium sweet.

Stone oblong reniform, covered with short, soft fibre all over ; veins forked and slightly depressed.

Fruit quality medium to good ; bearing poor, mid-to late season, keeping quality good.

The progeny is intermediate between the two parents in respect of vegetative characters but resembles Allampur Baneshan in shape of the fruit, and Neelum in characters of the flesh.

From the foregoing descriptions of six of the hybrid progenies, it will be noticed that both from the view-point of fruit quality and bearing propensities, 7/5 and 11/13 are worthy of perpetuation as clones for commercial plantings. Progeny 9/3 though has produced very high quality fruits, being second only to 7/5, is yet to provide evidence of its productive tendencies. It is clearly one which deserves to be watched further. The other progenies are of a lower rank in fruit quality, besides exhibiting so far low-cropping indications.

CHANCE SEEDLINGS.

As in the case of hybrids, the following superior chance seedlings raised and spotted out at the Fruit Research Station, Kodur, are given in the descending order of importance in regard to fruit quality.

1. SEEDLING PROGENY K.O. 11.

This is a seedling of an unknown parent. The seed was sown on 15th June 1939 and the first crop was harvested on 28th June 1944. The yield in 1946 was 130 fruits, which were harvested from 2nd April to 20th June 1946.

Tree large, top rounded, shoots slender to medium-thick. Leaves upheld, slightly reflexed, oval lanceolate and flat with sub-acuminate tip.

Fruit large, ovate, base rounded with a slight extension at the stalk end; stalk inserted squarely; cavity absent; shoulders equal and level; ventral shoulder rounded, dorsal shoulder ending in a long curve; apex broadly pointed; beak slightly prominent; sinus slight; dots medium, close; skin roughened to slightly warty, Cadmium Yellow (L. 7, Pl. 9), flushed with Coral Red (J. 8, Pl. 3) on shoulders; flesh soft, fibreless, Primuline Yellow (L. 5, Pl. 9); moderately juicy; flavour delightful; taste very sweet.

Stone oblong, covered with short, soft fibre all over; veins forked and slightly to prominently raised.

Fruit quality very good; bearing medium to heavy, mid-season; keeping quality medium to good.

The variety resembles Hamlet in respect of shape and colour of fruit, and Jehangir in respect of wartiness of the skin and flesh character, and Allampur Baneshan in respect of vegetative characters.

2. SEEDLING PROGENY K.O. 22.

This is a seedling of Dilpasand. The seed was sown on 21st June 1939 and the first crop was harvested on 21st May 1944. The yield in 1946 was 18 fruits harvested from 27th April to 31st May 1946 as against the year's average of 61 fruits per tree of Dilpasand on the Station on grafts of about nine years.

Tree large, top rounded, shoots slender. Leaves upheld, slightly reflexed, oval lanceolate and flat with acute tip.

Fruit is medium, ovate oblique; base obliquely flattened; stalk inserted squarely; cavity slight; shoulders equal, ventral higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long to moderate curve; apex rounded to broadly pointed; beak distinct; sinus shallow to slight; dots medium and

close ; skin medium-thick, smooth, leathery, Cadmium Yellow (K. 7, Pl. 9) ; flesh firm to soft, Primuline Yellow (L. 5, Pl. 9) ; slightly fibrous ; fibre short and soft near the stone ; flavour pleasant ; taste sweet to very sweet.

Stone oblong oval, covered with short, soft fibre all over ; veins forked and slightly raised.

Fruit quality very good ; bearing medium, mid-season ; keeping quality medium.

The variety resembles Neelum in respect of shape and other morphological features of the fruit, and Dilpasand in respect of vegetative characters.

3. SEEDLING PROGENY K.O. 27.

This is a seedling progeny of an unknown parent. The seed was sown on 20th July 1939 and the first crop was harvested on 19th May 1946. The yield in 1946 was only one fruit.

Tree medium, top rounded, shoots slender, leaves outheld, slightly reflexed, oval lanceolate, flat and wavy with sub-acuminate tip.

Fruit is large, obliquely oblong to oblong oval ; base obliquely flattened ; stalk inserted squarely ; cavity slight ; shoulders equal, ventral higher than dorsal, ventral shoulder rising and then rounded, dorsal shoulder ending in a long curve ; apex rounded, beak a point ; sinus slight ; dots medium, close ; skin thin, membranous, smooth, Deep Chrome (L. 8, Pl. 10) ; flesh firm, fibreless, Deep Chrome (L. 9, Pl. 10) ; flavour delightful ; taste sweet.

Stone oblong, covered with short, sparse, soft fibre all over, veins forked and slightly raised.

Fruit quality good ; bearing medium to poor ; mid-season ; keeping quality good.

Fruit resembles Allampur Baneshan in respect of shape of the fruit and characters of the flesh excepting for absence of a distinct beak. In respect of vegetative characters, the variety resembles Rajumanu.

4. SEEDLING PROGENY K.O. 7.

This is a seedling progeny of Allampur Baneshan. The seed was sown on 10th July 1939 and the first crop was harvested on 19th May 1945. The yield in 1946 was 115 fruits harvested from 7th May to 20th June 1946 as against the year's average of 117 fruits per tree of Allampur Baneshan on the Station on grafts of about nine years of age.

Tree medium, top rounded, shoots slender. Leaves upheld, slightly reflexed, oval lanceolate, flat and slightly wavy with sub-acuminate tip.

Fruit is medium, oval, oblong, base rounded, stalk inserted squarely ; cavity absent ; shoulders equal and level, ventral shoulder rounded, dorsal shoulder ending in a long curve ; apex rounded ; beak distinct ; sinus slight ; skin medium-thick, leathery, smooth, Primuline Yellow (L. 5, Pl. 9) ; dots medium, close ; flesh firm, fibreless, Capucine Buff (I. 2, Pl. 9) ; flavour pleasant to delightful ; moderately juicy ; taste sweet.

Stone oblong oval, covered with short, soft fibre all over ; veins forked and slightly depressed.

Fruit quality good ; bearing medium to poor, mid-season ; keeping quality good.

The fruit resembles Allampur Baneshan in respect of fruit shape and characters of the flesh, but differs from it in not possessing the high ventral shoulder. The tree resembles Allampur Baneshan also in all vegetative characters except the shape of the leaf.

5. SEEDLING PROGENY K.O. 6.

This is a seedling progeny of Janardhanapasand. The seed was sown on 10th July 1939 and the first crop was harvested from 11th May to 20th June 1946. The yield in 1946 was 29 as against the year's average of 329 fruits per tree of Janardhanapasand on the Station on grafts of about nine years age.

Tree medium, top rounded and shoots slender. Leaves outtheld, slightly reflexed, oval lancolate, flat, slightly wavy with sub-acuminate tip.

Fruit is medium, ovate ; base rounded ; stalk inserted squarely ; cavity absent ; shoulders equal and level, ventral shoulder rounded ; dorsal shoulder ending in a moderate curve ; apex rounded ; beak slightly mammiform ; sinus shallow ; dots small and close ; skin smooth, medium-thick, leathery, Cadmium Yellow (L. 8, Pl. 10) ; flesh soft, fibreless, moderately juicy, Primuline Yellow (L. 7, Pl. 9) ; flavour pleasant ; taste sweet.

Stone broadly oval, covered with dense, short, soft fibre all over ; veins parallel and grooved.

Fruit quality good ; bearing medium, mid-season ; keeping quality medium.

Fruit resembles Dilpasand in respect of fruit characters and Mulgova in respect of vegetative characters.

6. SEEDLING PROGENY K.O. 16.

This is a seedling progeny of Hamlet. The seed was sown on 10th July 1939 and the first crop was harvested from 19th May to 23rd June 1944. The yield in 1946 was 90 fruits as against the year's

average of six fruits only per tree of Hamlet on the station on grafts of about nine years age.

Tree medium to large, top oval, shoots medium-thick. Leaves outheld, moderately reflexed, oval lancolate, slightly folded, crinkled with acuminate tip.

Fruit is small, ovate oblique to oblong, base slightly obliquely rounded ; stalk inserted squarely ; cavity absent ; shoulders equal, ventral slightly higher than the dorsal, ventral shoulder slightly rising and then rounded, dorsal shoulder ending in a long curve ; apex rounded ; beak absent ; sinus slight ; dots small, close ; skin smooth, medium-thick, leathery, Primuline Yellow (L. 6, Pl. 9) ; flesh firm, Primuline Yellow (L. 6, Pl. 10) ; moderately juicy, slightly fibrous, fibres short and soft ; flavour pleasant ; taste sweet.

Stone oblong, covered with short, coarse fibre all over, veins forked and slightly raised.

Fruit quality good ; bearing medium, mid-season ; keeping quality medium to good.

The variety resembles Alphonso in fruit and vegetative characters.

It would be clear that among the chance seedlings, K.O. 11 and K.O. 22 are likely to strike the fancy of the mango producers, since both of these are characterised by superior fruit quality and high-yielding tendencies. The remaining four progenies are of a quality which cannot be deemed as outstanding.

XIV. DISCUSSION

Systematic study of all fruits is concerned with the naming, describing and classifying of varieties according to their natural relationships. In practice, the structure and arrangement of the various organs are studied to determine the points of similarity and dissimilarity, in order that the individuals which have a certain degree of resemblance may be placed in the same group. Hedrick (49) points out that any system of classification is but a true picture of a bit of vegetable kingdom on a certain day, and may, therefore, be not a good picture. For later times, there must be a new picture to show the changes that are taking place. He has also emphasised that there can never be a permanent classification of fruits, as it is a temporary arrangement of groups and individuals according to the knowledge available at that time. When more is known about the group, the classification is re-made so that the knowledge can be utilized by the botanist, plant breeder, the horticulturist and the fruit grower. He also points out that, it is immaterial if two authors agree or not with regard to a particular system of classification, and adds that it is a distinct advantage for workers of fruit taxonomy to see them through the eyes of different systematists. The authors' attempts as presented in these pages need therefore no apology.

The importance of some kind of classification of fruits involving the preparation of a workable key which would be helpful in identifying fruit varieties has long been recognized. In mango this is amply evidenced from the prevalent common and arbitrary classification of varieties into "*Kotha-rakhams*" (cut fruits), "*Rasalus*" (juicy fruits), "*Theya mamidies*" (fruit sweet when raw), etc. Pepenoe (75), Burns and Prayag (22) and Rolphs (85) have therefore rightly emphasized the urgent necessity for a recognized and rational system of classification of mango varieties. The classification attempted here is claimed to meet the situation.

Unlike in botanical classification, the systematic study of fruit varieties clearly calls for greater attention to be paid to field studies and observations of minute characters of the different parts of the fruits, leaf and inflorescence and recording of these characters observed in the field rather than to a mere study of herbarium specimens; though herbarium study is resorted to for confirming the very outstanding characters observed in the field. According to Hedrick (49), the differences in the kinds of inflorescences distinguish the genera and the species; but in the study of fruit varieties, characters must be looked for in the inflorescence itself like the minute differences

of the shape, size, etc., of the different parts of the inflorescence. This is because of the fact that fruit varieties in general and mango in particular happen to be individuals of the same species but with also some recognizable differences. In the classification detailed in the present paper therefore, it was necessary to go into the detailed characters of the inflorescence and also of the fruit and the leaf characters for facilitating the separation of varieties within the same species for drawing up a reliable key. The herbarium specimens are not helpful for a study of minute characters, which are clearly manifest in the field, and usually get obliterated in the preserved specimens. Many characters like the folding, twisting, crinkling and the orientation of the leaf, as well as characters like the shape of inflorescence, etc., are for instance very striking under field conditions, but disappear in herbarium specimens. The systematic horticulturist, therefore, prefers the study of specimens in the live condition to pressed or preserved specimens.

A number of workers like Blake and Connors (10), Shaw (91) and Winter (110) have studied fruit varieties from point of vegetative characters of tree and leaf. Pearl (70 and 71) and Bunyard (19) have studied thoroughly the varieties from the floral standpoint, while Durham (34) has exhaustively investigated the taxonomic possibilities of the fruits only. In the present investigation, however, importance has been attached to the distinctive features of the vegetative, floral as well as fruit characters. The chances of a successful genetical classification in mango being unnecessary or remote and time-taking, one is compelled to consider such practicable schemes based upon such features as shape, colour, flavour, season, etc. At any rate, genetic bases have yet to be proved to be of value in varietal classification. In mangoes, Popenoe (75) has based his classification not only on the fruit characters but also to a certain extent on the vegetative and the floral characters. Earlier writers like Woodhouse (48) and Burns and Prayag (23) have chosen mainly fruit characters as the basis for classification, paying little attention to the vegetative characters. Since the mature fruit is available only during a short period in any year, the usefulness of such a classification is obviously limited.

The work of Shaw (91) on apples, Winter (110) on raspberries and the present study of mangoes clearly demonstrate that other plant characters are as fully usable as those of the fruits, and in some cases the latter present more definitely recognisable differences. Furthermore, they are available almost throughout the year and are equally useful in determining the identity of young nursery stock and mature fruiting plants.

Based on Bunyard's (20) dictum that any classification to be comprehensive should include the characters of the leaf, flower and the fruit, the present work was carried out, and this has only served to support the aforesaid view. Among the vast multiplicity of the mango varieties we find often two or more varieties closely resembling each other with regard to characters of the leaf and flower, but showing distinctive features in fruits or *vice versa*. For example, Gaddemar and Hamlet (Trichur) closely resemble each other in flower and tree characters but differ markedly with regard to the fruit characters. Similarly, Allampur Baneshan and Imampasand resemble each other in respect of leaf and fruit characters, while they show distinct differences with regard to the flower. It is therefore possible to conclude that no system based solely upon fruit characters or flower characters alone can furnish an accurate basis for identification or classification. The present paper therefore lays emphasis on all the tree, flower and fruit characters, and the key is based on the combination of the most constant characters selected in each.

Hedrick (49) points out that it is seldom possible for anyone working on taxonomy to observe all the varieties cultivated in one place or different varieties grown in different places. Workers are therefore naturally obliged to depend upon descriptions, illustrations or herbarium specimens in compiling the work, as it is impossible for anyone to form permanently in his mind a picture of the characteristics of each of the multitude of varieties. It is therefore essential that the descriptions should be accurate and as comprehensive as possible. Insufficient characterization is the chief defect in most of the systematic works on fruits and particularly in mangoes. A description may be accurate but be characterised by omission of important features or be weighed down by unimportant facts, so that the true picture is often obscured. It is not necessary to describe every aspect of the fruit, leaf or the flower, but the outstanding features must be brought out. Even when all characters are given, greater stress ought to be laid on those by which it can most readily be distinguished from its close relatives. According to Bunyard (20), a descriptive horticulturist would be forced to deal with the adjectives and adverbs of quality, quantity and intensity. Hedrick (49) warns that while employing such terms, a great deal of care has to be exercised, as the descriptions are judged by clearness, accuracy and the correct use of the different characters. He adds that the best description is one that enables the reader to form a mental picture of the plant; and proceeds to suggest that it is well to test this description by comparing this mental picture with

the plant itself to see if all important characters have been brought out. He emphasizes that there are no definite rules for description ; and that individuality must have full play by each worker describing what he sees, with adequate set of technical terms, which should be accurate, lucid and brief. In the present study of mangoes, efforts were made to conduct the studies bearing all the above suggestions carefully in mind and in accordance with them.

To a beginner in varietal study, every variety would look alike. Close and repeated observations of the nature of the leaves, flowers and fruits would, however, soon reveal the peculiarities that characterize each variety. It is but natural that a study of this nature should cover a very extensive range of characters. The environmental conditions and the cultural methods naturally bring about differences in certain morphological features ; and this fact should be given due consideration in any comprehensive study aiming at the classification of varieties. Hence it was found essential to make a judicious selection of characters which were found to be most constant.

The primary pre-requisite for making a key is acknowledged to be a detailed study of the morphological characters. The data furnished in this paper after such a detailed study have provided indications, as already pointed out, of the possibility of the use of the flower, leaf and fruit characters in identifying the various varieties now under cultivation. One of the interesting facts emerging from the present paper is the observable differences in vegetative characters. These are the characters that must be given an important place in classification. Less elementary characters have been recognized but not formulated, as importance has been attached only to fundamental points. Extensive observations and study have made it possible to determine which characters are of primary importance, and which are of minor importance, and which are likely to be of additional value, being relatively constant for a given variety. It is on the basis of this differentiation that the key was constructed and classification worked out.

In the course of the present studies it was found that drooping of leaves in so far as the leaves of the flowering shoots are concerned, was a common feature in all varieties during flowering, while that of folding of leaves was markedly more pronounced during hot weather than during other parts of the year. The drooping of the leaves during the flowering season is possibly Nature's contrivance to hold the inflorescence conspicuously in order to promote the activity of pollinating agencies, while the folding of the leaves in summer is possibly intended to prevent excess of transpiration. Shaw (90), (91), and (92), Alderman and Shoemaker (1), and Blake and Connors (10)

have stated that typical leaves are only along the mid season's growth. A similar phenomenon was observed in mangoes also, where the leaves at the base and tip of the shoots were found to be very variable with regard to shape, while those in the middle were almost uniform with regard to this character. Thus, in collecting leaves for a study, those in the middle of the shoots were preferred and they were selected during the non-flowering periods. Allowance was made for leaf-folding, which occurs when the specimens are exposed to sunlight. Those situated in shade were therefore avoided in selecting the specimens for description and study.

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XVI. SUMMARY AND CONCLUSION

On the basis of an intensive study of mango varieties cultivated in different parts of the province of Madras and in Cochin and Banganapalle States as well as from the descriptions recorded at Kodur of the selected chance seedlings and hybrid progenies, a key for the identification of South Indian varieties has been constructed.

The study has also brought out the need for a nation-wide attempt to list varieties, codify names and evolve a standard system of nomenclature and classification.

XVII. LIST OF REFERENCES

1. ALDERMAN, W. H. and SHOEMAKER J. H. (1925). Use of leaf characters in identification of plum varieties. *Poc. Amer. Soc. Horti. Sci.*, Vol. 22, pp. 48.
2. ALLAN, R. G. (1938). *Modern Mango Cultivation*, Bull. 13 Fruit-Series. Department of Agriculture, United Provinces, Agra and Audh.
3. AUCHTER, E. C. (1919). Some influences of thinning on pollination and fruit spur growth on the yearly performance records of fruit produce. *Proc. Amer. Soc. Horti. Sci.*, 16, pp. 118-137.
4. BABONE, A. (1932). *Contribuição para estudo taxonomico de especie—Ficus Carica L.* (Taxonomy of *Ficus Carica L.*). *Anais do Institute Superior de Agronomia Portugal* 1932, 5 : 2, pp. 122-242.
5. BABONE, A. (1934). *Ensaro Sobre caracterizacao das variedades do oliveira estudo biometrico* (Character of Olive varieties—a biometrical study.) *An. Inst. Sup. Agran.* 6 : 1 ; 45-115.
6. BAILEY, L. H. (1937). *Encyclopedia of Horticulture—The Macmillan Co.*, New York, pp. 195-8.
7. BATCHELOR, L. D. and REED, H. S. (1918). Relation of variability of yields of fruit trees to the accuracy of the field trials. *Journal of Agricultural Research*, 12, pp. 245-83.
8. BATCHELOR, L. D. *et al* (1928). Studies preliminary to the establishment of a series of fertiliser trials in bearing citrus grove. *University of California Coll., Agri. Expt. Sta. Bull*, 451.
9. BERWICK, E. J. H. (1940). Mangoes in Krian-Malayan Agricultural. *Journal*, Vol. XXVIII, No. 12, Dec. 1940, pp. 517, 524.
10. BLAKE, M. A. and CONNORS, C. H. (1936). Early Results of Peach Breeding in New Jersey. *Agricultural Experimental Station, Bulletin No. 599*.
11. BLAKE, M. A. (1933). Classification of 135 varieties and species of nectarines on the basis of fruit bud at New Brunswick. *New Jersey Agricultural Experiment Station, Circular 274*.
12. BLAKE, M. A. (1933). New Jersey standard of classifying the set of fruit buds upon peaches. *New Jersey Agricultural Experimental Station, Circular 271*.
13. BOSWEL, V. *et al* (1933). Description of the principal types of tomatoes. *U.S. Department of Agriculture, Misc. Pub. 160*.
14. BOUQUET, A. G. B. (1932). An analysis of character of inflorescence and the fruit habit of 'some' varieties of greenhouse tomatoes. *Cornell University Agricultural Experiment Station, Bulletin 139*.
15. BRANCHEIDT, P. (1933). *Beitrag Zur Earfe der Sorter Beschreibung de festilitat Sverhaltruse bein Pfirsich* (Differentiation of varieties and fertility in peach) *Gartenbauwissen Schaft* 8, pp. 45-76.

16. BREAKBANE, A. W., CHAPELOW, H. C. and GRUB, N. H. (1935). Periods of blossoming of some tree and soft fruit varieties at East Malling. East Malling Research Station, Annual Report.
17. BRIAN, P. W. (1936). Varieties of cabbage and lettuce and their classification. *Journal of Pomology* 14, 26-38.
18. BRITTAIN, W. H. *et al* (1935). Apple pollination studies in the Annapolis Valley. Dom. Canada Department of Agriculture Bull. 162, N.S. pp. 198.
19. BUNYARD, E. A. (1927). Flower of apple as an aid in identifying varieties. *Journal of the Royal Horticultural Society*, XXXVIII, pp. 234-237.
20. BUNYARD, E. A. (1934). A basis of classification of apples. *Journal of the Agricultural Society*, XXXVIII, pp. 234-7.
21. BUNYARD, E. A. (1923). Note on the trial of gooseberries. *Journal of Pomology and Horticultural Science*, Vol. III, No. 3, pp. 148.
22. BURNS, W. and PRAYAG, S. H. (1921). The book of the mango. Bombay Department of Agriculture, Bulletin 103.
23. BURNS, W. and PRAYAG, S. H. (1915). Mango classification. *Agricultural Journal of India*, Vol. IV, October, pp. 374.
24. CARPENTER, C. C. and STAFFORD I. B. (1923). A proposed key to the commercial apples, *Proc. Amer. Horti. Soc.*, 20.
25. CHITTEDEN, F. J. (1911). Pollination of orchard. The flowering of apples. *Journal of the Royal Horticultural Society*, XXXVII, pp. 350.
26. COLLINS, G. N. (1903). Mango in Porto Rico. Bureau of Plant Industry, Bulletin 28, pp. 13-17.
27. COOPER, J. R. (1936). Factors influencing fertilization of apple blossoms and setting fruit. *Proc. Amer. Soc. Horti. Sci.*, 34 (24-35).
28. CRANE, M. B. and LEWIS, D. (1940). Genetical studies in pears. A classification of cultivated varieties. *Journal of Pomology and Horticultural Science*, Vol. XVIII, No. 1.
29. DAHUMEL DU MONCEAU (1768). *Traite des Arbres Fruitiers, Contenantleur. Figureleur*. Description, culture, etc., Paris, 2 Vol.
30. DALY, P. M. (1925). *Scientific Agriculture*, pp. 250-254.
31. DORSEY, M. J. (1919). Relation of weather to fruitfulness in the plum. *Journal of Agricultural Research*, 17, pp. 103-26.
32. DORSEY, M. J. (1935). Nodal development of peach shoots as related to fruit bud formation, *Proc. Amer. Sci.*, 33, 245-258.
33. DRAIN, B. D. (1925). *Essentials of systematic pomology*. New York. John Wisely and Sons, London. Chapman and Hall, pp. 1-284.
34. DURHAM, H. E. (1920). Recognition of the fruit. Some systems concerning apples and pears. *Journal of Pomology and Horticultural Science*, Vol. I, No. 3, pp. 177-196.
35. FARRELL, J. (1917). Apple culture in Victoria. *Journal of the Department of Agriculture in Victoria*, XV, pp. 385-413.

36. FRENCH, A. P. (1943). Plant characters of cherry varieties. Massachusetts Station, Bull. 401, pp. 23.
37. GALANG, F. G. and LAZO, F. D. (1935). The relation of fruiting to vegetative growth characters in Carabao mango. Phil. Jour. Agri. 6, No. 1, 129-139.
38. GOSSARD, A. C. (1933). A Preliminary report on growth rate studies in pecan. Proc. Amer. Soc. Horti. Sci., 30, pp. 396-400.
39. GOULD, H. P. (1939). Why fruit trees fail to bear? Leaflet No. 172, U.S. Department of Agriculture.
40. GOURLEY, J. H. (1915). Studies in fruit bud formation, N. H. Exp. Stn. Tech. Bull. 9.
41. GRASOSKY, A. and WELTZ, J. (1933). Pomegranate growing in Palestine. Department of Agriculture and Forests. Agricultural Leaflet Ser. No. Horticulture, No. 31.
42. GRUB, N. H. (1922). Commercial raspberries and their classification. Journal of Pomology and Horticultural Science, Vol. III, No. 1, pp. 7.
43. GRUB, N. H. and PEREN (1922). A note on the impurity of raspberry stocks. Journal of Pomology and Horticultural Science 3, No. 1, pp. 7-10.
44. HALL, H. M. and CLEMENTS, F. E. (1923). Phyllogenetic methods in taxonomy. Pub. No. 326. Carnegie Institute, Washington.
45. HARTLESS, A. C. (1914). Mango crops and some factors influencing them. Agricultural Journal of India, Vol. IX, Part II, pp. 141-159.
46. HARVEY, E. M. and MURNEEK, A. E. (1921). Relation of carbohydrates and nitrogen to behaviour of apple spurs. Oregon Agri. Expt. Sta., Bull. 176.
47. HATTON, R. G. and GRUB, N. H. (1926). Some factors influencing the period of blossoming of apples and plums. Journal of Pomology and Horticultural Science, Vol. No. 3, pp. 210-215.
48. HATTON, R. G. (1932). Standardisation of Citrus rootstocks. I.B.F. Tech. Communication.
49. HEDRICK, U. P. (1925). Systematic Pomology—Rural Text-Book Series. Edited by L. H. Bailey, MacMillan & Co., New York.
50. HIGGINS, J. E. (1906). Mango in Hawaii. Hawaii Agricultural Experimental Station, Bulletin No. 12.
51. HODGSON, R. W. and CAMERON, S. H. (1934). On the bearing behaviour of the Fuerte Avocado variety in Southern California. Proc. Amer. Soc. Horti. Sci., 33, pp. 200-203.
52. HOGG ROBERT (1966). The Fruit Manual—Horticultural Press, pp. 102-117.
53. KINMAN, C. F. (1918). The Mango in Porto Rico—Porto Rico Agri. Expt. Sta., Bull. 24, pp. 1-30.
54. KOBEL, F. (1931). Text Book of Fruit Growing from Physiological Standpoint. Julius Springer, Berlin. R.M. 18-40, pp. 274. (Horti. Abst. I.B.F., Vol. I, No. 3, Abst. No. 317).

55. KRAUS and KRAYBILL (1918). Vegetation and reproduction with Special reference to tomato. Oregon Agri. Exp. Sta., Bull. 149.
56. KRUMBHOLZ, G. (1939). *Beitrage Zur Morphologic der Aphfelblute*
 11. *Ubudieei gnug der bhitermer kurale Zur sartenbeschirci-*
bung (Contribution to the morphology of the apple blossom
 II.) The suitability of the flower character for descriptions.
Gartenbauwis 1939, 13, pp. 1-65. Agri. Expt. Sta. Record,
 Abs., Vol. 81.
57. LANGORD, L. R. (1935). Seasonal influences upon the effect of shading in regard to setting sour cherry fruits. Proc. Amer. Soci. Horti. Sci., 33, pp. 234-236.
58. LOTT, R. V. and ENZIC, J. V. (1937). Some varietal leaf characters in the Peacan. Proc. Amer. Soc. Horti. Sci. Vol. 35, pp. 86-87.
59. MAC DANIEL, L. H. and HEINICKE, A. J. (1927). Pollination and other factors effecting set of fruits. N. Y. Cornel Agri. Expt. Stn., Bull. 497.
60. MAHESWARI, P. (1934). The Indian Mango. Current Science, 10, pp. 97-98.
61. MEARZ, A. and PAUL, M. R. (1930). A Dictionary of Color. McGraw Hill Book Company.
62. MEADER, E. M. and BLAKE, M. A. (1939). Progress report on identification of peach varieties. Proc. Amer. Soc. Horti. Sci., Vol. 37, pp. 203-207.
63. MURNEEK, A. E. (1931). Horticultural investigations at Missouri Station. Mo. Agri. Expt. Sta., Bull. 272.
64. NAIK, K. C. (1946). Orchard efficiency analysis in mangoes and oranges. The Madras Agricultural Journal, pp. 98-109.
65. NAIK, K. C. (1939). Unpublished Data.
66. NAIK, K. C. (1939). Annual Report, Fruit Research Station, Kodur. Published by the Department of Agriculture, Madras.
67. NICHOLAISEN, N. (1933). *Die Wichtigsten Spinet Sorten* (The most important varieties of spinach), Zuchter, 1-8.
68. PADDOCK, W. (1915). The water supply and fruit bud formation, Proc. Amer. Soc. Horti. Sci. 12, pp. 51-54.
69. PARTRIDGE, N. L. (1919). Growth and yield of apples. Proc. Amer. Soc. Horti. Sci., 16, 107-109.
70. PEARL, R. T. (1932). Identification of apple trees. Journal of Pomology and Horticultural Science, Vol. X, No. 1, pp. 19-26.
71. PEARL, R. T. (1933). Inflorescence of apple trees. An historical review together with further varietal descriptions. Journal of South Eastern Agricultural College, Wye, Kent No. 32, pp. 9-17.
72. PICKERING, S. V. (1916). Report 15, Woburn Expt. Fruit Farm, 67-76, pp. 83-84.
73. POPE, W. T. (1929). Mango culture in Hawaii. Hawaii Agriculture Experimental Station, Bulletin 58.

74. POPENOE, F. W. (1911). Mango in Southern California. Pomona College Journal of Economic Botany, Vol. 1, No. 4, pp. 153-200.
75. POPENOE, F. W. (1927). Manual of Tropical and Sub-Tropical Fruits, MacMillan & Co.
76. POPENOE, F. W. (1941). The Mango. A study in systematic pomology. Journal of the Imperial College of Tropical Agriculture, Vol. XVIII, No. 2, pp. 23-25.
77. POPENOE, F. W. (1917). Pollination of the Mango. U.S. Dept. of Agriculture, Bull. 542.
78. RAGAN, W. H. (1940). Nomenclature of apples. A catalogue of known varieties referred to in American publications from 1804-1904. U.S. Department of Agriculture, Bureau of Plant Industry, Bulletin No. 56.
79. REED, H. S. (1919). Certain relationships between the flower and fruits of lemon. Journal of Agricultural Research 17, 153-165.
80. RIABOVA, J. H. (1930). The problems of pollination and fertilisation of fruit trees. Journ. of Garden, Nikita, Vasta, Crimea (Horticultural abstracts I.B.F.P., Vol. II, No. 2, Abs. 138).
81. RICHARDS, A. V. (1943). Stock and scion trials with mango. Tropical Agriculturist, V. 99, pp. 134-39.
82. RIDGEWAY, R. (1912). Color Standards and Color Nomenclature, Washington.
83. ROBERTS, R. H. (1926). Apple physiology. University of Wisconsin. Agricultural Experiment Station Research, Bulletin 68.
84. ROBERTS, O. C. and COLBY, A. S. (1943). Identification of certain red purple raspberry varieties by means of primary canes. Mas. Expt. Station. Proc. Amer. Soc. Horti. Sci., 42, pp. 457-462.
85. ROLPHS, P. H. (1915). Mangoes in Florida. University of Florida Agricultural Experimental Station, Bulletin 127.
86. SEFICK, H. J. and BLAKE, M. A. (1936). External characters of green fruits of peach are valuable in varietal identification. Proc. Amer. Soc. Horti. Sci., Vol. 34.
87. SEFICK, H. J. and BLAKE, M. A. (1937). The classification of peaches by means of leaf characters. Proc. Amer. Soc. Horti. Sci., Vol. 35, pp. 246-250.
88. SEN, P. K. and MALLICK (1940). Embryo of the Indian mangoes (*Mangifera indica* L.). The Indian Journal of Agricultural Science, Vol. X, Part V, pp. 750-760.
89. SEN, P. K. (1939). Unpublished Data.
90. SHAW, J. K. and FRENCH, A. P. (1931). The identification of apple varieties from non-bearing trees. Massachusetts Agrl. Expt. Station, Bulletin 274, pp. 57-87.
91. SHAW, J. K. (1914). The study of apple tree characters and its bearing on variety substitution. Proc. Amer. Soc. Horti. Sci., II, pp. 120-12.
92. SHAW, J. K. (1922). Leaf characters of apple varieties. Massachusetts Agricultural Experiment Station, Bulletin 208.

93. SINGH, S. S. L. and KHAN, A. A. (1939). Relation of growth to fruit bearing in mangoes. *Punjab Fruit Journal*, 3, 11.
94. SOUTHWICK, L. and FRENCH, A. P. (1944). The identification of plum varieties from non-bearing trees. *Massachusetts Station, Bull.* 413, pp. 51.
95. SRIVATSAVA, D. N. (1938). Studies in the non-setting of pears. *Annual Report of East Malling Research Station*, pp. 128-44.
96. SRIVATSAVA, D. N. (1938). Studies in the non-setting of pears, VI. *Journal of Pomology*, 16, 39-62.
97. SWARBRICK, T. (1928). Factors governing fruit bud formation. *Annual Report of Argicultural Research Station, Long Ashton*, pp. 23-29.
98. TAMHANKAR, K. V. (1912). The flowering of the mango. *Agricultural Journal of India*, Vol. VII, Part IV, pp. 399-402.
99. THOMSON, C. R. (1932). Identification of red current varieties. *Annual report of the Agri. Horticultural Research Station, Long Ashton*, 1931-32, pp. 28-39.
100. UPSHALL, W. H. (1924). Identification of varieties of fruit trees from leaf and other growth characters. *Scientific Agriculture*, 4 (1924), No. 6, pp. 184-189.
101. UPSHALL, W. H. (1925). Government inspection of nurseries to eliminate variety mixture.
102. VAILE, J. E. (1931). The influence of environmental factors on the development of pollen, pistil and fruit in strawberry. *Abst. of Ph. D. thesis submitted to Illinois University*. 1933. *Horti. Abst. I.B.F.P.*, Vol. IV, No. 3, Abst. 545.
103. WALLACE, T. (1941). Some effects of deficiencies of essential elements on fruit trees. *Amer. Aphol. Biol.*, Vol. XVII, pp. 649-657.
104. WATS, V. M. (1931). Some factors which influence growth and fruiting of tomatoes. *Univ. Ark. Agricultural Expt. Sta., Bull.* 267.
105. WEBBER, H. J. (1932). Variation in Citrus seedlings and their relation to rootstock selection, *Hilgardia*, 7, pp. 1-79.
106. WESTER, P. J. (1920). A descriptive list of mango varieties in India. *Phillipine Agricultural Review*, Vol. XIII, No. 4, pp. 265-352.
107. WESTER, P. J. (1920). The Mango. *Phillipine Bureau of Agriculture, Bulletin* No. 18.
108. WICKS, W. H. (1917). Blooming period of the apple in North-West Arkansas. *Arkansas Station, Bulletin* 134, pp. 3-12.
109. WINTER, J. D. (1930). Identification of cultivated raspberries. *Tech. Bulletin* 66. University of Minnesota, Agri. Expt. Station.
110. WINTER, J. D. (1925). Use of characters in identification of red raspberry varieties. *Proc. Amer. Soc. Horti. Sci.*, pp. 261-264.
111. WOODHOUSE, A. C. (1909). Mangoes in Bhagalpur. A preliminary note. *Quarterly Journal of the Department of Agriculture, Bengal*, Vol. II, pp. 108,

INDEX

Serial number and name of variety.	Page number.	Serial number and name of variety.	Page number.
1 Abbasi	33, 237	38 Bangalora	28, 224
	245		231
2 Achar	143, 152	39 Bangaratheegalu	186, 192
3 Acharpasand	205, 208	40 Bangarumamidi	34, 69, 71
4 Adonda Mamidi	94, 102	41 Bannada Kukku	34, 186
5 Agirpalli Nallarasam	33, 237		189
	244	42 Barmana	143, 148
6 Agirpalli Thella Mamidi	198, 203	43 Begumpasand	262, 272
7 Allipasand (Kodur)	33, 212	44 Belkhas	94, 103
	216	45 Bellary	104, 114
8 Allipasand (Trichur)	118, 124	46 Benazir	69, 72
9 Allampur Baneshan	25, 33	47 Baneshan	25, 194
	249, 260, 277	48 Bennet Alphanso	127, 140
	278, 279, 284	49 Bennet Appus	140
10 Alphan	262, 268	50 Bettutukra	86, 90
11 Alphanso	127, 130	51 Bhaggunda	34, 127
	280		135
12 Ameergola	40, 46	52 Bhavarapu Irsala	186, 189
13 Amini	127, 132	53 Bhimlipadva	84, 100
14 Amlet	25, 262	54 Bhutta Irsala	143, 154
	265	55 Bhutto	75, 77
15 Amruthakalasa	34, 143	56 Bishop	33, 40, 42
	146	57 Black Alphanso	40, 46
16 Amrutharasayanam	34, 156	58 Black Andrews	165, 167
	158	59 Bobbili Chinnakayalu	127, 132
17 Anandapuram Suvarnarekha	143, 147	60 Bobbili Pedakayalu Punasa	123
18 Anderson	60, 67	61 Bobri	237, 246
19 Appayya Shetty	33, 127	62 Bodduganneru	60, 64
	137	63 Bokkudumanu	237, 245
20 Applepasand	80, 83	64 Buchirajupadva	94, 100
21 Appus	130	65 Buddipasand	25, 80, 84
22 Arisalamanu	165, 167	66 Burmodilla	231
23 Arthigunda	94, 101	67 Calcutta Baramasi	33, 212,
24 Arundal	249, 256		221
25 Asakapalli Baramasi	33, 153	68 Calcutta Kharjur	224, 225
	158	69 Chandbibi	249, 261
26 Assal Andrews	67	70 Chandrakaran	212, 223
27 Assal Ganneru	34, 127	71 Chappatai	194
	135	72 Chelukulamanu	205, 207
28 Assal Kalepad	55, 57	73 Cherukurasam	212, 217
29 Athimadhuram	34, 55, 58	74 Chinnakothakaya	212, 218
30 Badam	143, 149	75 Chinnarasam	212, 216
31 Badami	130	76 Chittoor	5
32 Badam Mamidi	171, 183	77 Chota Jehangir	69, 71
33 Baderkhandi	171, 176	78 Chukla	156, 161
34 Bahuddin	212, 221	79 Coconutpasand	40, 42
35 Balakonda	224, 233	80 Collector (Mangalore)	33, 80
36 Bandarubondam	127, 138		83, 231
37 Banganpalli	33, 186	81 Collector (Alamanda)	33
	194	82 Creeping	127, 136

Serial number and name of variety.	Page number.	Serial number and name of variety.	Page number.
83 Chudigola ...	262, 266	127 Gurivireddipasad ...	224, 229
84 Dabba ...	75, 77	128 Hafez-be-gola ...	33, 127
85 Dabbila Mamidi ...	60, 62		141
86 Dadoda ...	104, 113	129 Hamilton ...	54
87 Dalbadal ...	143, 152	130 Hamlet ...	198, 201
88 Desavaltheya Mamidi ...	40, 45		265, 278
89 Dilkush ...	171, 174		280, 284
90 Dilpasand ...	33, 224	131 Hanumanthagoa ...	118, 122
	232, 278, 280	132 Himmapasand ...	256
91 Dondakayalamanu ...	34, 198	133 Himayuddin ...	256, 275
	204	134 Hybrid Progeny 7/5 ...	274
92 Doodmishri ...	33, 104	135 Hybrid Progeny 9/3 ...	275
	115	136 Hybrid Progeny 11/13 ...	275
93 Doodpeda (Kadium) ...	171, 177	137 Hybrid Progeny 3/9 ...	275
94 Doodpeda (Panyam) ...	171, 184	138 Hybrid Progeny 7/9 ...	276
95 Dooma ...	118, 125	139 Hybrid Progeny 9/15 ...	277
96 Doodiamulgoa ...	33, 262	140 Hyderabad ...	249, 257
	271	141 Hyderabad Black ...	94, 98
97 Dophalla ...	262, 268	142 Hyder Saheb ...	198, 201
98 Dos ...	249, 254	143 Hussain (Mudabidri) ...	69, 73
99 Ennamandala Goa ...	24, 171	144 Hussain (Chittoor) ...	69, 73
	174	145 Imampasand ...	25, 33,
100 Ennamandala Theya Mamidi. ...	40, 45		249, 256, 284
101 Elivarunalla Mamidi ...	186, 191	146 Innanji ...	33, 127
102 Fasli ...	198, 203		138
103 Fernandin ...	127, 141	147 Irubhogam ...	127, 140
104 Fernandino ...	141	148 Irulappan Bangalora ...	182
105 Firangiludva ...	104, 107	149 Israli Mamidi ...	224, 235
106 Gaddernar ...	104, 110	150 Itrulia ...	58
	284	151 Jailor ...	33, 212
107 Giddalur Amini ...	262, 267		222
108 Gillikukku ...	34	152 Jalalsaheb ...	198, 202
109 Goa (Kodur) ...	25, 118	153 Jalibundha ...	262, 266
	121	154 Jampulu ...	37, 198
110 Goa (Alamanda) ...	171, 178		202
111 Goa (Trichur) ...	249, 257	155 Jami Mamidi ...	34, 249
112 Goa Manga ...	104, 116		253
113 Gohabunder ...	180	156 Janardhanapasand ...	224, 227
114 Gollapalli Soramamidi ...	198, 200		280
115 Gopalapatnam ...	94, 96	157 Janardhanprasad ...	227
116 Gottipalli Baramasi ...	118, 121	158 Jehapasand ...	104, 112
117 Grape ...	180	159 Jehangir ...	33, 104
118 Gulabi ...	224, 227		113, 276
119 Gummadi Ganheru ...	34, 86, 89		277, 278
120 Gundrabanganapalli (Bobbili) ...	34, 141	160 Jilledikayalu ...	237, 241
121 Gundrabanganapalli (Nuzvid) ...	37, 104	161 Kachura ...	156, 160
	113	162 Kadiri ...	33, 86, 89
122 Gundrasam ...	104, 107	163 Kadiyam Baramasi ...	174
123 Gundu (Chittoor) ...	37, 48	164 Kagdi Haphus ...	130
	50, 130	165 Khader ...	25, 130
124 Gundu (Salem) ...	34, 48	166 Khaderpasand ...	130
	50, 130	167 Kajja Laddu ...	108
125 Gurpur ...	55, 59	168 Kakulamamidi ...	104, 110
126 Guruvam ...	143, 148	169 Kalakanda ...	262, 269

Serial number and name of variety.	Page number.	Serial number and name of variety.	Page number.
170 Kalapani ...	55, 59	218 Mallipandri Gulabi ...	171, 175
171 Kalepad (Kodur) ...	25, 171	219 Manoranjani ...	33, 265
	176	220 Manoranjani ...	156, 161
172 Kalepad (Panyam) ...	94, 102		265
173 Kallamai ...	231	221 Manoratha ...	212, 219
174 Kallapady ...	176	222 Manathota Bahuddin ...	212, 217
175 Kamani ...	186, 194	223 Mettavalasa Peechumanu ...	34, 237
176 Kanchanapalli Pasand ...	94, 99		240
177 Kankanady ...	40, 43	224 Mittari ...	249, 252
178 Kantalu Mamidi ...	224, 230	225 Mokkaanganapalli ...	262, 270
179 Kapatabhanga ...	212, 218	226 Mokka Collector ...	224, 230
180 Kasturi ...	80, 82	227 Mokka Gulabi ...	205, 209
181 Kasturi Mamidi ...	143, 147	228 Mokkuva ...	127, 133
182 Katti Neelum ...	176	229 Mouse ...	237, 241
183 Kharjur ...	224, 235	230 Mukkuganneru ...	86, 93
184 Khudadad ...	133, 118	231 Mukri ...	127, 137
	123	232 Mukkugoa ...	171, 179
185 Khudadad Long ...	262, 264	233 Mukkurasam ...	34, 262
186 Khuddus ...	165, 169		267
187 Killimukku ...	34, 231	234 Mulgoa ...	25, 28
188 Kini ...	33, 60, 66		32, 86, 88, 280
189 Kintalvanipeta ...	118, 123	235 Mulki No. 1 ...	33, 48, 52
190 K.O. 6 ...	280	236 Mundappa ...	33, 66, 65
191 K.O. 7 ...	279	237 Muvandan ...	94, 97
192 K.O. 11 ...	278, 281	238 Mylepelian ...	60, 66
193 K.O. 16 ...	280	239 Mylapore ...	143, 154
194 K.O. 22 ...	278, 281	240 Mylapuri ...	69, 72
195 K.O. 27 ...	279	241 Nadusalai ...	180
196 Kobbari Mamidi ...	130	242 Nagasagaram ...	205, 210
197 Kohitoor ...	104, 115	243 Nagulapalli Irsala ...	237, 247
198 Kolanka Goa ...	224, 233	244 Nakkalam Pedda Mamidi ...	205, 209
199 Kondayya Mamidi ...	224, 235	245 Nalla Andrews ...	80, 82
200 Koram Goa ...	224, 232	246 Nalla Mamidi (Nuzwid) ...	186, 190
201 Kota Manga ...	94, 101	247 Nalla Mamidi (Trichur) ...	224, 228
202 Kothapalli Chinna Arisalu ...	94, 97	248 Nallarasam (Nuzwid) ...	104, 114
203 Kothapalli Kobbari ...	34, 127	249 Nallarasam (Pithapuram) ...	212, 215
	130	250 Nandanam Pedda Mamidi ...	104, 109
204 Kowthar ...	104, 117	251 Narayanarajupadva ...	249, 259
205 Krishnaraopasand ...	143, 149	252 Nattihusenammaspasand ...	237, 242
206 Kudethoor ...	86, 91	253 Navaneetham ...	33, 143
207 Kudurekukku ...	33, 75, 78		151
208 Kurkan ...	33, 104	254 Nawab (Banganapalle) ...	33, 249
	116		252
209 Laddu ...	33, 40, 43	255 Nawabpasand (Sirvel) ...	198, 200
210 Langra Hajipur ...	104, 111	256 Nawabpasand (Panyam) ...	186, 196
211 Lantherulu ...	207	257 Nawab Mamidi (Nuzwid) ...	212, 215
212 Latchayyapeta ...	86, 92	258 Nazeemkhanpasand ...	60, 63
213 Lord ...	205, 207	259 Nazeempasand ...	63
214 Madhavaaraopasand ...	143, 153	260 Nazukpasand ...	25, 33
215 Maharajah ...	33, 224		127, 136
	234	261 Neelum ...	25, 104
216 Majjivalasa Veesamanu ...	34, 205		108, 275
	208		277, 279
217 Mallayya Mamidi ...	127, 131	262 Nelvaganneru ...	60, 65

Serial number and name of variety.	Page number.	Serial number and name of variety.	Page number.
263 Nemilikhantam ...	34, 171, 180	305 Rajabhadur ...	165, 168
264 Noonam ...	249, 254	306 Rajabunder ...	249, 258
265 Noonepasand ...	34, 143, 146	307 Rajuganneru ...	34, 171, 177
266 Nurjehan ...	33, 171, 175	308 Rajumanu ...	33, 237, 246
267 Nuzvid Pedda Mamidi ...	186, 196	309 Rambhog ...	186, 190
268 Nuzvidtheya Mamidi ...	45	310 Rane's White ...	94, 96
269 Nyattikuzian ...	30, 34, 48, 52	311 Rane's Thella Kayalu ...	94, 96
270 Octonumber Mulgoa ...	86, 88	312 Rasairot ...	156, 160
271 Olour ...	127, 134	313 Rasपुरi (Mangalore) ...	180
272 Omlet ...	75, 79	314 Rasपुरi ...	60, 67
273 Pacharisi ...	34, 75, 79	315 Rasabale ...	34, 249, 261
274 Padiri ...	262, 272	316 Regunta Sora Mamidi ...	212, 222
275 Padmanabhagoa ...	118, 120	317 Reddi ...	80, 84
276 Pairi ...	180	318 Reddipasand (Panyam) ...	33
277 Paispasand ...	48, 50	319 Reddipasand (Kodur) ...	75, 78, 171, 184
278 Palura ...	127, 139	320 Root jack ...	186, 191
279 Panakalu ...	34, 237, 242	321 Ruman ...	48, 53
280 Panchadarakalasa ...	34, 156, 163	322 Ruzwani ...	143, 150
281 Panchadarlamanu ...	34, 165, 169	323 Saadat ...	60, 68
282 Panchavarnam ...	86, 90	324 Safeda ...	78
283 Papayyarajugoa ...	249, 259	325 Safed Amini ...	237, 243
284 Patnamjathi ...	130	326 Sahajan ...	224, 228
285 Pear ...	127, 131	327 Sakkargutli (Kodur) ...	34, 55, 57, 143, 151
286 Pedda Ganneru ...	34, 69, 73	328 Sakkargutli (Mangalore) ...	55, 57
287 Pedda Kalepad ...	25, 237, 240	329 Sakkarpura ...	86, 92
288 Pedda Khader ...	34, 262, 265	330 Salappa ...	118, 125
289 Pedda Mamidi ...	34	331 Salarsummer ...	118, 124
290 Pedda Neelum ...	262, 270	332 Salem Bangalora ...	171, 182
291 Pedda Rasam ...	237, 243	333 Sannakulu ...	34, 28, 54
292 Pedda Suvarnarekha ...	34, 127, 133	334 Saraum ...	205, 210
293 Peter ...	25, 171, 180	335 Sarbatanar ...	34, 104, 111
294 Peterpasand ...	180	336 Sarkarkilimuk ...	262, 273
295 Petatheyamamidi ...	40, 44	337 Savera ...	156, 162
296 Pinnuvemali Baramasi ...	60, 63	338 Seethaphalgola ...	34, 156, 159
297 Podugu Banganapalli ...	186, 193	339 Shagapugoa ...	156, 162
298 Pulepalli Suvarnarekha ...	133	340 Sindhura ...	156, 163
299 Pulihora ...	25, 171, 181	341 Sirvel Jehanagir ...	94, 100
300 Porkala ...	205, 211	342 Sivajipasand ...	33, 249, 255
301 Puttu ...	40, 48, 53	343 Sobapasand ...	143, 150
302 Pulla Baramasi ...	158	344 Soramamidi ...	34, 212, 220
303 Rajabadai ...	143, 150	345 Sorakmathi ...	165, 168
304 Raja Banganapalli ...	193	346 Sundershah (Kadiam) ...	171, 181, 231
		347 Sundershah (Trichur) ...	231

Serial number and name of variety.	Page number.	Serial number and name of variety.	Page number.
348 Sunneri	237, 247	369 Thurum	224, 230
349 Sundri	134	370 Totapuri	231
350 Suvarnarekha ✓	34, 127 134, 275	371 Trotum	48, 51
351 Swantham	186, 194	372 Tunikalu	237, 244
352 Swarapadu	194	373 Ulliar	127, 139
353 Swarnarekha	134	374 Umdra	113
354 Thabelu	49, 44	375 Uwwa	62
355 Thagarampuditheya Mamidi	224 234	376 Vanka Neelum	104, 109
356 Tharipadi	118, 121	377 Veliakota Manga	94, 98
357 Thavitigoa	165, 170	378 V. P. Fernandin	86, 91
358 Thega	60, 64	379 Verpanas	33, 212 220
359 Thella Ayodhya	34, 156 159	380 Wallajah (Salem)	48, 51
360 Thella Gulabi	143, 153	381 Wallajah (Panyam)	48, 51, 171, 178
361 Thelukalamanu	118, 120	382 Wallajahpasand	262, 271
362 Thenneru	34, 212 219	383 Xavier	118, 126
363 Thimmapuram Doravukattu		384 Yekkar	186, 192
Theya Mamidi	249, 260	385 Yerra Ayodhya	34, 249 255
364 Theya Banganapalli	94, 99	386 Yerra Goa	24, 180
365 Thorang	171, 179	387 Yerra Gulabi	104, 112
366 Thotafareed	186, 193	388 Yerrakayalu Baramasi	104, 108
367 Thripurasundari	171, 182	389 Yerra Mamidi	249, 258
368 Thupakimadiyam	34, 249 253	390 Yerra Mulgoa	25, 37 60, 62
		391 Yeruknaidu Baramasi	171, 183

APPENDIX

Serial number.	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
		Weight of fruit in gms.	Length of fruit in cms.	Major dia. in meter in cms.	Minor dia. in meter in cms.	Length of inflorescence in cms.	Spread in cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thickness of stone in cms.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Coconut pasand	280	9.4	9.2	7.6	23.2	15.8	21	7.1	4.9	2.3
2	Bishop	392	9.4	9.4	8.6	26.8	16.4	35	7.1	4.4	3.1
3	Kankanadi	287	9.2	8.9	7.6	28.4	18.6	28	5.4	4.2	2.6
4	Laddu	203	6.9	7.1	6.7	21.8	15.6	14	5.4	3.9	2.0
5	Thabelu	992	14.1	13.6	11.0	22.6	21.8	35	10.7	6.7	2.6
6	Petathaya Mamidi	1,076	10.2	14.4	13.8	27.7	26.4	35	6.7	5.4	2.3
7	Ennamandalathaya Mamidi	755	12.8	12.5	9.9	24.4	23.4	63	9.9	5.1	2.6
8	Desavalathaya Mamidi	154	6.7	6.9	5.9	24.5	25.2	21	4.9	3.6	2.3
9	Black Alphonso	538	11.2	9.6	9.2	24.6	23.8	42	7.6	4.9	2.6
10	Amergola	454	8.6	10.7	9.4	21.4	22.8	28	7.9	4.6	2.3
11	Chittoor Puttu	98	6.1	5.1	3.4	20.6	19.8	14	4.9	3.8	2.0
12	Gundu	210	6.9	7.9	6.7	21.4	15.2	14	5.6	4.2	2.0
13	Pai Pasand	392	9.6	9.6	9.4	18.8	13.6	21	5.9	3.6	2.0
14	Wallajah	231	6.7	8.4	7.1	21.8	15.2	14	5.6	4.2	2.0
15	Trotum	98	6.1	5.9	5.6	19.2	14.1	7	4.4	2.6	1.8
16	Mulki No. 1	231	8.6	7.4	7.1	24.4	23.8	21	6.4	4.4	2.3
17	Nyattikuzian	420	11.5	10.7	10.2	23.6	22.8	14	6.1	4.2	2.3
18	Puttu	287	6.7	5.6	5.1	25.4	24.6	7	5.4	3.1	2.0

Serial number.	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
		Weight of fruit in gms.	Length of fruit in cms.	Major dia- meter in cms.	Minor dia- meter in cms.	Length of infor- scence in cms.	Spread in cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thick- ness of stone in cms.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
51	Pacharisi	77	5.6 ✓	5.9	4.9	26.4	25.7	14	4.4	3.1	2.0
52	Nalla Andrews	594	11.0	11.0	10.2	27.6	19.6	42	8.4	4.9	2.9
53	Kasturi	217	8.6	7.4	6.4	23.8	16.2	21	6.9	3.9	1.8
54	Collector	217	8.6	7.1	6.4	24.6	16.8	28	6.7	3.6	2.6
55	Applepasand	392	9.2	9.2	8.9	22.4	15.7	35	6.9	4.4	2.9
56	Buddipasand	454	10.2	9.4	9.2	24.2	23.8	14	5.9	3.9	2.0
57	Reddi	420	8.6	9.6	9.4	25.8	24.6	21	5.6	3.4	2.3
58	Mulgoa	922	12.8	12.5	11.5	24.8	17.2	49	8.9	5.1	2.9
59	Octonumber Mulgoa	748	11.5	11.5	11.0	22.8	15.5	42	8.4	6.1	2.6
60	Gummadi Ganneru	378	10.7	12.0	10.7	23.4	22.7	42	7.6	4.9	2.9
61	Kadiri	147	7.6	7.4	5.4	30.8	21.5	14	4.6	2.6	1.8
62	Panchavarnam	280	9.2	8.9	8.6	23.5	17.3	14	6.9	3.6	2.0
63	Bettutukra	468	9.4	10.5	8.9	24.6	23.7	35	6.9	4.6	2.6
64	Kudethoor	238	7.4	7.1	6.1	24.8	23.5	28	5.6	3.9	2.3
65	V. P. Fernandez	406	9.2	9.2	8.1	25.6	24.9	28	7.1	4.2	3.1
66	Latchayyapeta	140	7.6	6.4	5.1	28.9	27.5	21	8.9	5.1	2.9
67	Saktarpara	112	7.1	6.9	5.4	31.2	30.8	35	6.9	4.6	2.6
68	Mukku Ganneru	140	7.1	7.9	7.4	21.6	20.5	14	5.6	4.4	2.0
69	Ranee's White	329	10.2	8.4	6.1	31.5	23.5	28	8.1	4.4	2.0
70	Gopalapatnam	399	11.2	8.4	7.9	24.8	18.5	28	8.1	4.2	2.6
71	Kothapalli Chinna Arisalu	168	10.5	8.6	8.1	23.6	18.1	14	9.4	7.9	2.0
72	Muvandan	203	8.1	7.9	6.4	25.2	19.3	21	6.9	3.9	2.3
73	Velikota Manga	441	11.5	9.9	7.1	26.3	18.9	21	9.2	5.1	2.0
74	Hyderabad Black	622	12.2	11.0	9.6	26.8	25.4	35	9.6	5.1	2.6
75	Theya Banganapalli	350	11.8	8.9	6.4	25.5	24.7	21	9.6	4.9	2.3

76	Kanchanapallipasad	...	...	475	11.5	9.6	7.9	24.6	23.8	21	9.2	5.1	2.0
77	Sirvel Jehangir	...	...	566	11.8	9.9	8.6	24.4	23.8	14	9.6	6.1	2.0
78	Bhumalipadva	...	...	475	11.5	8.9	8.6	25.4	24.7	14	8.9	5.1	2.0
79	Kota Manga	...	...	189	8.1	6.9	5.9	22.8	21.6	14	7.1	3.9	1.8
80	Arthigunda	...	...	245	8.1	7.9	6.7	25.2	24.6	21	7.1	4.2	2.3
81	Kalepad	...	...	454	11.8	9.4	8.4	25.6	25.3	28	8.6	4.6	2.6
82	Adona Mamidi	...	...	140	8.9	7.1	6.7	38.4	40.2	21	7.4	4.2	2.0
83	Belkhas	...	...	643	11.8	11.2	10.5	22.8	21.5	14	8.6	5.1	2.6
84	Gundrasam	...	...	406	11.5	8.6	7.9	23.8	18.3	28	10.2	4.6	2.3
85	Fitangludva	...	...	196	8.9	7.6	6.4	28.4	20.3	21	6.7	3.9	2.3
86	Yerrakayalu Baramasi	...	...	175	8.4	6.9	5.9	34.4	24.8	28	6.7	4.6	2.6
87	Neelum	...	...	364	11.5	8.4	8.4	26.6	21.3	14	7.9	3.9	2.0
88	Venka Neelum	...	...	126	9.4	7.1	6.7	24.7	19.6	14	6.1	3.9	2.0
89	Nandanum Pedda Mamidi	...	...	259	10.7	7.9	5.9	28.4	20.8	56	9.9	4.9	3.1
90	Gaddemar	...	...	790	16.14	11.2	8.6	32.4	21.8	35	9.9	5.1	2.3
91	Kakula Mamidi	...	...	168	8.9	6.7	5.9	24.0	17.8	21	6.9	3.6	2.3
92	Langra Hajipur	...	...	406	11.5	8.9	7.4	32.8	25.8	14	8.4	4.2	2.0
93	Sarbatanar	...	...	908	14.6	12.0	10.7	26.8	25.4	35	11.2	5.4	2.6
94	Yerra Gulabi	...	...	231	9.9	7.4	6.7	23.4	22.8	14	7.4	3.4	2.0
95	Jehapasad	...	...	154	9.9	7.6	6.4	26.4	25.6	14	7.4	4.4	2.0
96	Dadoda	...	...	1,076	14.1	8.6	8.1	23.8	22.7	28	11.0	6.1	2.3
97	Jehangir	...	...	545	11.8	9.9	8.9	21.3	20.5	35	8.6	4.9	2.0
98	Gundra Banganapalli	...	...	238	8.6	7.6	6.9	24.4	23.8	28	5.9	3.4	2.6
99	Bellary	...	...	133	7.1	6.4	5.6	22.6	22.7	21	5.9	3.6	2.3
100	Nallarasam	...	...	496	14.8	8.6	6.9	22.8	21.8	63	11.5	4.9	2.6
101	Doodmishri	...	...	343	9.6	8.9	8.1	21.8	22.2	28	7.9	4.6	2.6
102	Kohitoor	...	...	294	11.5	8.1	6.4	38.8	36.0	14	9.6	4.2	1.6
103	Kurkan	...	...	189	9.2	6.7	5.9	23.8	22.6	14	7.6	4.2	2.0
104	Goa Manga	...	...	140	8.1	6.7	5.4	22.4	21.8	14	6.9	3.9	2.0
105	Kowthar	...	...	105	6.4	5.1	4.6	18.2	17.4	14	5.1	3.6	2.3
106	Padmanabha Goa	...	...	343	10.2	8.1	7.4	22.7	16.8	14	8.6	5.1	2.3
107	Thalakalanu	...	...	231	9.9	7.4	6.9	34.3	23.2	35	7.6	4.6	1.0

Serial number	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
		Weight of fruit in gms.	Length of fruit in cms.	Major dia- meter in cms.	Minor dia- meter in cms.	Length of inflores- cence in cms.	Spread cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thick- ness of stone in cms.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
108	Tharipadi	231	8.9	7.4	6.7	31.6	24.2	28	6.9	3.9	2.3
109	Goa	126	6.5	5.6	5.4	28.5	20.5	14	4.6	3.1	2.0
110	Hanumantha Goa	245	8.6	7.9	7.1	28.6	21.7	21	6.7	4.4	2.3
111	Gottipalli Baramasi	98	7.4	5.9	5.4	20.3	13.5	14	5.9	3.4	2.0
112	Kintalvanipeta	471	12.0	9.9	7.6	29.8	21.4	63	9.2	4.6	3.1
113	Khudadad	552	12.8	9.4	8.1	22.8	21.4	35	9.4	4.4	2.3
114	Salarsunmer	280	9.2	7.6	6.9	37.8	35.8	21	7.4	3.9	2.3
115	Allipasand	63	5.6	4.6	3.6	22.4	21.6	14	4.4	3.1	2.3
116	Dooma	224	8.6	7.1	6.4	24.6	23.7	28	6.7	4.4	2.3
117	Salappa	259	9.6	7.4	6.9	24.3	23.7	28	7.4	3.9	2.0
118	Xavier	322	11.0	8.1	7.6	32.6	31.7	14	7.4	3.9	2.0
119	Alphanso	196	8.9	7.1	6.1	24.8	32.5	14	6.7	4.6	2.3
120	Kothapalli Kobburi	364	11.2	8.4	7.9	30.4	36.8	35	8.4	4.4	2.6
121	Mallaya Mamidi	748	14.1	12.0	11.6	32.8	23.3	42	11.0	4.6	2.3
122	Pear	210	9.6	7.4	5.9	24.5	19.4	14	6.7	4.6	2.3
123	Bobbili Chinnakayalu punasa...	231	10.5	7.6	6.1	26.4	17.2	35	8.1	4.6	2.3
124	Amini	552	6.6	9.4	7.6	32.4	23.3	35	13.1	5.1	2.0
125	Pedda Suvernarekha	357	9.9	8.1	7.6	32.6	23.8	28	9.0	8.1	7.6
126	Olour	287	11.0	7.9	6.4	31.8	22.7	35	8.1	4.4	2.6
127	Mokkuva	421	10.2	9.2	8.1	22.5	17.7	14	8.9	4.9	2.3
128	Suvernarekha	204	10.2	7.6	7.4	31.4	23.3	14	7.9	3.9	2.6
129	Haggunda	180	8.9	6.4	5.6	34.2	24.7	14	8.1	4.2	2.0
130	Assalu Ganneru	119	8.4	6.4	4.6	19.2	14.5	14	6.7	3.9	2.0
131	Nazuk pasand	343	10.7	8.1	9.9	21.8	15.6	21	8.6	4.2	2.0
132	Creeping	147	6.9	6.4	6.1	19.4	14.2	14	5.4	3.9	1.8

S. no.	Gr. number.	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
			Weight of fruit in gms.	Length of fruit in cms.	Major diameter in cms.	Minor diameter in cms.	Length of inflorescence in cms.	Spread in cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thickness of stone in cms.
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
165		Sethaphal Gola...	364	10.5	9.4	9.6	24.6	17.8	21	8.1	5.1	2.3
166		Thella Ayodhya	294	9.2	7.4	6.9	26.4	19.2	14	7.4	6.1	2.0
167		Kachura ...	182	9.6	6.9	6.1	22.8	15.2	14	7.4	2.9	2.0
168		Rasalrot ...	286	10.7	7.6	6.1	24.6	16.4	14	8.9	4.6	2.0
169		Chuckla ...	510	13.6	9.9	7.9	23.6	22.8	21	9.2	4.9	2.3
170		Manoranjan	392	9.6	9.2	8.6	19.6	18.8	28	6.9	4.2	2.6
171		Savara ...	364	11.8	7.9	7.6	23.2	22.8	42	8.9	4.9	3.1
172		Shagapugoa	196	9.6	8.9	7.9	25.4	26.3	14	7.4	4.6	2.0
173		Panchadrakalasa	357	10.5	8.4	7.4	23.5	24.0	21	8.1	4.9	2.9
174		Sindhra ...	231	9.4	7.4	6.7	22.6	21.8	21	6.4	3.4	2.3
175		Arisalamanu	126	8.1	7.4	6.9	24.6	18.2	14	7.4	3.9	2.0
176		Black Andrews	538	11.2	9.2	8.9	27.8	20.4	35	7.9	4.6	2.3
177		Rajabunder	252	11.0	9.9	8.9	25.4	18.2	21	8.9	4.9	2.0
178		Sorkamathi	643	14.4	9.9	9.2	20.6	21.5	63	11.8	5.4	2.6
179		Khuddus	182	8.4	7.1	5.9	24.5	25.4	14	6.4	4.2	2.0
180		Pachadarlamannu	224	7.9	7.4	6.7	23.8	22.7	14	7.1	3.6	2.0
181		Thavitigoa	280	9.9	9.2	8.6	24.2	23.8	28	6.4	4.6	2.3
182		Dilkush ...	420	10.5	7.9	6.9	25.7	19.5	21	7.4	3.9	2.0
183		Ennamandala Goa	154	7.6	6.4	5.6	22.2	12.4	21	5.9	3.1	2.3
184		Mallipandri Gulabi	284	10.5	7.9	6.9	23.8	17.4	21	8.4	4.9	2.3
185		Nurjehan	818	15.3	11.5	9.4	24.6	18.2	28	10.5	5.4	2.3
186		Baderkhandi	210	9.2	6.7	5.6	29.8	21.4	21	7.4	4.4	2.3
187		Kalepad ...	134	8.4	5.9	5.9	26.8	20.2	14	5.6	3.1	1.8
188		Rajuganneru	147	7.1	6.9	6.1	26.4	18.7	21	5.6	4.2	2.3
189		Doodpeda	182	9.2	8.1	7.6	27.6	21.8	28	8.1	4.6	2.3

190	Goa	...	...	248	86	74	66	242	236	21	68	44	23
191	Wallajah...	...	...	427	107	76	79	244	238	28	86	46	23
192	Mukkagao	...	...	245	89	92	69	226	218	21	61	39	23
193	Thorang...	...	...	238	99	84	81	236	227	21	74	49	23
194	Nemlikhantam	...	...	273	92	81	69	248	235	21	74	39	26
195	Peter	...	...	268	82	80	76	244	236	22	66	45	28
196	Pulihora	...	...	364	99	84	81	325	338	21	67	42	23
197	Sundershah	...	...	566	122	99	84	302	312	14	99	49	23
198	Salem Bangalora	...	...	294	107	71	67	224	218	28	71	39	20
199	Thripurasundari	...	...	690	122	102	86	304	312	14	94	51	23
200	Badam Mamidi	...	...	280	102	94	84	227	218	21	81	44	23
201	Yerukunaidu Baramasi	...	...	168	84	71	64	252	246	21	71	39	23
202	Reddipasand	...	...	566	115	102	96	328	322	35	89	49	29
203	Doodpeda	...	...	252	105	79	69	254	247	21	92	39	23
204	Bhavarapu Irsala	...	...	406	138	79	67	246	178	28	118	46	23
205	Bannadakukku	...	...	322	115	86	69	326	242	28	94	44	26
206	Rambhog	...	...	622	161*	110	99	234	172	42	136	54	26
207	Malla Mamidi	...	...	441	118	89	82	212	138	42	86	44	26
208	Elivarnalla Mamidi	...	...	608	112	105	94	284	198	35	120	49	26
209	Bangarathegalu	...	...	238	102	69	74	224	164	35	92	44	23
210	Yekkar	...	...	217	92	67	61	346	262	28	71	34	23
211	Root Jack	...	...	458	122	89	79	326	234	28	110	51	23
212	Totafareed	...	...	210	131	59	26	245	165	28	125	49	23
213	Podugu Banganpalli	...	...	1,020	209	115	95	285	209	70	184	59	26
214	Banganapalli	...	...	626	136	107	89	216	208	14	105	54	23
215	Swarapadu	...	...	622	136	102	96	205	202	28	99	42	23
216	Swantham	...	...	392	125	86	79	216	208	28	102	44	23
217	Kamani	...	...	336	118	79	74	238	226	35	92	44	23
218	Nawab Pasand	...	...	420	148	89	79	244	228	21	112	42	23
219	Nuzvid Pedda Mamidi	...	...	468	128	92	79	206	212	28	110	49	23
220	Nawabpasand	...	...	392	128	89	79	254	168	28	105	42	20
221	Gollapali Sora Mamidi	...	...	545	163	69	84	352	262	35	141	46	23

Serial number.	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
		Weight of fruit in gms.	Length of fruit in cms.	Major dia. in cms.	Minor dia. in cms.	Length of inflorescence in cms.	Spread in cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thickness of stone in cms.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
222	Hyder Saheb	482	13.6	8.1	7.6	23.2	17.2	42	11.0	3.9	2.9
223	Hamlet	978	14.6	12.2	10.7	34.6	25.6	84	14.1	6.1	3.1
224	Jalat Saheb	1,090	17.9	12.0	10.5	32.6	21.8	35	14.8	5.1	2.3
225	Jampulu	392	13.3	8.1	7.2	25.4	19.6	42	10.2	4.4	2.9
226	Fazli	217	9.9	7.4	5.6	24.6	18.2	21	8.4	3.9	2.0
227	Agripalli Thalla Mamidi	713	13.1	10.2	7.6	20.6	21.2	28	9.9	5.4	2.3
228	Dondakayala Mamidi	168	11.0	6.4	5.6	28.4	27.6	21	9.9	3.9	2.0
229	Lord	1,244	18.7	13.6	11.0	43.6	30.6	42	15.3	5.1	2.6
230	Chelukalamani	266	10.2	7.1	5.9	32.4	25.6	21	8.6	4.4	2.3
231	Majjivalasa Veemanu	1,188	16.1	12.2	10.2	32.6	24.8	42	15.1	7.1	2.6
232	Acharpasand	308	11.6	7.9	7.1	28.4	20.8	14	8.4	3.9	1.8
233	Nakkalam Pedda Mamidi	832	17.3	11.2	8.6	28.5	19.6	77	14.6	5.6	2.9
234	Mokka Gulabi	748	13.6	11.0	9.9	24.4	23.6	35	9.9	4.6	2.9
235	Nagasagarani	336	11.5	7.9	6.4	27.4	26.5	21	11.0	5.1	2.3
236	Saram	182	9.6	5.9	5.4	25.8	24.6	42	8.1	3.9	2.6
237	Porkala	203	9.6	6.9	6.4	24.8	23.6	28	7.1	3.6	2.0
238	Nawab Mamidi	420	13.1	10.2	9.6	23.4	17.2	28	11.0	5.4	2.3
239	Nallarasani	454	15.1	8.4	7.4	26.4	18.5	28	12.8	4.6	2.3
240	Alipiasand	336	11.8	7.6	7.1	28.4	20.2	21	8.6	3.4	2.0
241	Chinnarasani	427	12.2	8.9	7.9	31.4	23.8	35	8.9	4.9	2.0
242	Cherukurani	329	11.0	7.6	6.9	33.4	24.8	28	10.2	3.9	2.3
243	Manthota Bahuddin	392	12.2	7.9	7.1	28.4	18.6	21	9.9	3.9	2.3
244	Chinnakothakaya	315	11.2	8.1	7.1	26.4	20.2	35	8.6	4.9	2.0
245	Kapatabhanga	91	7.6	5.4	4.6	31.4	22.8	14	6.9	3.4	2.0
246	Manoratha	622	14.1	9.4	8.9	25.8	18.2	56	11.2	5.1	2.6

247	Thenuru	...	...	...	...	22.7	13.8	11.5	28.6	21.3	70	19.7	7.1	3.1
248	Sora Mamidi	...	...	...	...	13.6	7.4	7.4	27.8	20.4	42	19.7	7.1	2.3
249	Verpanas	...	...	...	...	14.6	9.6	8.9	32.6	22.7	56	10.7	5.1	2.9
250	Bahuddin	...	...	...	...	13.6	8.1	7.1	23.6	22.6	28	10.5	4.6	2.3
251	Calcutta Barumasi	...	...	...	...	10.5	6.1	5.6	26.4	25.7	21	9.4	3.6	2.3
252	Jailor	...	...	...	...	15.1	8.4	6.7	22.4	21.6	28	12.8	4.4	2.0
253	Regunta Sora Mamidi	...	...	...	...	19.2	9.9	8.9	32.8	31.6	70	16.3	5.4	2.9
254	Chandrakara	...	...	...	...	6.1	3.9	3.4	25.6	24.8	71	5.4	3.1	2.0
255	Gulabi	...	...	...	...	12.0	8.1	7.9	26.8	19.2	21	9.9	3.9	2.3
256	Janardhadasand	...	...	...	...	9.9	7.6	6.9	27.6	18.6	35	7.9	4.2	2.6
257	Nalla Mamidi	...	...	...	...	15.8	11.5	10.2	28.4	19.8	35	12.0	5.9	2.0
258	Sahjahan	...	...	...	...	15.6	12.5	11.5	27.4	18.2	42	11.8	6.7	2.6
259	Calcutta Kharjur	...	...	...	...	16.9	9.6	7.4	25.8	16.6	28	10.2	5.1	2.3
260	Gurivreddipasad	...	...	...	...	10.2	6.9	6.7	24.6	16.2	21	8.9	3.9	2.0
261	Kantulu Mamidi	...	...	...	...	14.1	10.5	8.6	28.4	20.2	35	12.2	5.1	2.3
262	Thurum	...	...	...	...	9.9	7.6	6.9	26.8	19.4	35	7.9	4.2	2.6
263	Mokka Collector	...	...	...	...	16.1	10.2	8.6	32.6	32.8	49	14.4	5.6	2.3
264	Bangalora	...	...	...	...	14.8	8.6	7.1	23.4	23.6	21	13.1	4.4	2.0
265	Dipasad	...	...	...	...	12.8	8.1	7.6	21.8	21.5	21	8.9	3.9	1.8
266	Koram Goa	...	...	...	...	10.2	8.1	6.7	23.4	22.8	21	8.9	4.4	2.3
267	Kolanka Goa	...	...	...	...	11.2	8.9	6.9	24.2	23.6	21	8.9	4.6	2.3
268	Belakonda	...	...	...	...	13.3	8.6	7.6	28.8	27.6	21	10.7	3.9	2.0
269	Maharajah	...	...	...	...	12.0	9.2	7.4	22.6	21.8	14	9.6	4.6	1.8
270	Thagarampudi Theya Mamidi	...	...	...	...	12.2	8.6	7.4	24.8	23.6	28	9.2	4.9	2.3
271	Kondayya Mamidi	...	...	...	...	13.1	8.4	7.4	25.8	24.2	35	10.7	4.9	2.6
272	Kharjur	...	...	...	...	10.2	5.6	4.9	23.8	21.6	14	7.9	2.6	1.8
273	Israli Mamidi	...	...	...	...	12.5	8.1	6.7	22.2	21.8	35	9.6	3.9	2.0
274	Pedda Kalepad	...	...	...	...	11.2	8.1	7.1	23.4	30.2	21	9.2	3.9	2.3
275	Mettavalasa Peachumaru	...	...	...	...	11.2	8.1	7.9	34.6	21.8	42	9.9	5.4	2.6
276	Jilledikayalu	...	...	...	...	14.4	6.1	5.6	28.8	20.6	21	12.8	4.6	2.0
277	Mouse	...	...	...	...	14.6	9.4	8.6	26.4	18.8	28	12.0	4.9	2.3
278	Nathusenaruma Pasand	...	...	...	...	10.5	7.9	6.7	23.4	17.5	28	8.9	4.4	2.3

Sl. number.	Name of the mango variety.	Fruit dimensions.				Inflorescence.		Stone dimensions.			
		Weight of fruit in gms.	Length of fruit in cms.	Major dia. in meter in cms.	Minor dia. in meter in cms.	Length of inflorescence in cms.	Spread in cms.	Weight in gms.	Length of stone in cms.	Width of stone in cms.	Thickness of stone in cms.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
279	Panakalu	189	9.4	6.9	5.9	26.3	18.7	28	7.6	4.4	2.3
280	Peddarasam	489	12.8	8.9	8.4	28.7	19.3	42	11.0	4.9	2.3
281	Safed Amini	678	15.1	11.3	8.9	25.8	18.3	35	12.8	5.1	2.9
282	Agirpalli Nallarasam	566	16.3	9.6	8.1	28.4	21.3	84	13.8	5.1	3.1
283	Turrikalu	580	13.3	10.2	8.9	27.8	19.4	34	10.5	4.6	2.6
284	Abbasi	315	10.5	5.1	6.7	20.8	20.2	28	9.2	4.6	2.3
285	Bokkudumanu	175	10.2	6.7	6.1	32.6	31.8	35	8.4	3.9	2.6
286	Bobri	245	10.2	7.6	6.7	26.6	25.8	21	7.9	4.2	2.0
287	Rajumanu	224	10.2	5.6	7.9	26.8	23.7	28	6.4	4.6	2.3
288	Sunneri	287	9.4	7.6	6.9	26.6	25.5	28	8.1	4.4	2.6
289	Nagadapalli Irsala	189	11.8	8.6	4.9	28.4	27.5	28	10.7	3.6	2.3
290	Mitari	224	9.6	7.4	6.7	26.5	19.2	28	9.2	4.4	2.3
291	Nawab	280	11.8	8.6	7.6	24.3	18.5	28	9.4	4.4	2.3
292	Thupakunadiyam	762	18.4	11.5	8.4	24.6	18.8	84	15.8	5.6	3.1
293	Doss	154	8.1	5.6	5.4	22.4	16.3	14	6.7	3.6	2.0
294	Noonam	226	8.4	7.2	6.4	23.5	17.2	14	6.4	3.9	2.0
295	Shivaji Pasand	252	12.8	9.4	8.9	26.8	19.4	42	11.0	5.9	2.3
296	Yerra Ayodhya	406	13.1	8.6	7.1	25.4	18.8	35	10.7	3.9	2.3
297	Arundal	706	14.1	10.5	9.6	24.8	17.5	35	11.5	4.6	2.6
298	Inampasand	517	12.8	8.9	7.9	32.4	24.5	35	10.7	4.9	3.1
299	Goa	503	11.8	6.9	5.6	23.8	18.1	35	11.6	5.6	2.6
300	Hyderabad	587	13.3	10.2	8.6	27.6	26.8	56	11.2	5.1	2.3
301	Rajabunder	538	14.1	8.9	8.6	22.4	21.8	42	11.2	4.4	2.3
302	Yerra Mamidi	154	8.1	6.1	8.1	24.6	23.7	14	7.6	3.4	2.0
303	Papayarsajugoa	280	10.7	7.6	6.4	28.5	27.8	21	8.4	4.4	2.3

304	Narayanarajupadva	...	...	454	12.5	8.4	7.4	28.4	27.6	21	12.2	4.2	2.3
305	Thimnapuram	Doravukattu	...	461	9.9	6.4	5.9	24.6	23.8	14	7.9	3.9	2.0
	Theya Mamidi.												
306	Allampur Baneshan	...	...	566	13.1	9.6	8.6	25.2	24.5	35	9.9	4.2	2.6
307	Chandbibi	...	...	825	12.5	9.4	8.1	23.4	22.8	35	10.7	5.1	2.3
308	Rasabale...	...	...	287	10.7	7.1	7.1	23.4	22.8	28	8.9	3.6	2.0
309	Jami Mamidi	...	...	762	14.6	10.7	8.4	23.8	16.4	42	12.5	5.4	2.3
310	Anlet	...	...	573	14.8	10.7	9.4	25.2	18.5	35	10.7	4.2	2.0
311	Chudigola	...	...	189	9.2	6.9	6.1	23.6	17.2	21	6.9	6.1	2.3
312	Jalibundha	...	...	594	15.3	9.4	8.4	31.4	24.3	63	12.2	5.1	2.9
313	Mukku Rasam	...	...	566	15.1	8.9	8.1	26.4	18.1	42	13.8	5.9	2.6
314	Giddalur Amini	...	...	860	14.8	10.7	9.9	27.3	19.5	35	10.2	4.9	2.3
315	Alphan	...	...	434	11.2	9.2	7.9	25.8	17.3	35	11.0	5.1	2.3
316	Dophalla	...	...	182	8.9	6.7	5.4	28.6	27.5	14	7.6	4.2	2.3
317	Khudaded Long	...	...	252	12.0	6.9	5.6	25.2	24.7	14	10.2	3.6	2.0
318	Kalakanda	...	...	266	11.0	7.4	6.7	32.4	31.3	35	9.2	4.4	2.3
319	Mokka Banganapalli	...	...	482	14.1	10.7	9.6	22.6	21.2	42	9.9	5.4	2.9
320	Pedda Neelam	...	...	657	14.6	9.4	9.4	24.2	23.8	14	11.2	4.4	2.3
321	Wallajapasad	...	...	217	10.2	6.4	5.6	25.3	24.7	21	8.4	3.9	2.6
322	Doodia Mulgosa	...	...	392	9.2	7.6	7.1	28.3	27.5	21	6.9	3.6	2.0
323	Begumpasad	...	...	308	9.2	7.6	7.1	22.3	21.7	21	6.9	3.6	2.0
324	Padiri	...	...	252	11.0	7.6	6.1	24.2	23.8	42	9.2	4.9	2.6
325	Sarkar Kilimuk	385	12.8	7.9	7.1	21.6	20.7	35	9.6	4.4	2.3
326	Pedda Khader	678	13.1	10.2	9.9	26.8	34.4	28	10.2	4.4	2.6

42-1461
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